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PREFACE

Year Book Australia is the principal reference work produced by the Central Office of the Australian Bureau of Statistics (ABS). It provides a comprehensive and detailed statistical review of various aspects of the economy and social conditions in Australia. In addition, it contains descriptive matter dealing with Australia's history, government, international relations, defence, climate, physiography, culture and environment.

The first *Official Year Book of the Commonwealth* was published early in 1908, although individual Australian States and colonies had been producing year books for several decades before that. *Year Book Australia 1989* is issued under the authority of the Commonwealth Government and follows a similar pattern to past issues. However, chapters have been revised and new material added.

Each year a number of *Special Articles* appear in the Year Book. This year the *Special Articles* are listed in the Table of Contents.

Most of the statistics contained in this volume relate to the years ended June or December 1987 or 1988. More detailed, and in most cases more recent, statistics are available in other ABS publications. The more significant of these publications are listed at the end of the relevant chapters of the Year Book, while the ABS *Catalogue of Publications and Products* (1101.0) lists all current publications of the ABS.

I extend my thanks and appreciation to all those officers involved in the preparation of *Year Book Australia 1989* and those organisations who have kindly supplied material for inclusion.

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- Australian Customs Service
- Australian Dairy Corporation
- Australian Egg Marketing Council
- Australian Electoral Commission
- Australian Federal Police
- Australian Film Commission
- Australian Film, Television and Radio School
- Australian Heritage Commission
- Australian Institute of Criminology
- Australian Institute of Health
- Australian International Development Assistance Bureau
- Australian Meat and Livestock Corporation
- Australian Mineral Industries Research Association Limited
- Australian National Gallery
- Australian National Maritime Museum
- Australian National Parks and Wildlife Service
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- Australian Sports Commission
- Australian Taxation Office
- Australian War Memorial
- Australian Wheat Board
- Australian Wool Corporation
- Bureau of Industry Economics
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- Bureau of Mineral Resources, Geology and Geophysics
- Bureau of Tourism Research
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- Commonwealth Parliamentary Library
- Commonwealth Scientific and Industrial Research Organisation
  - Bureau of Information and Communication, Information Services Unit
  - Centre for Environmental Mechanics
  - Division of Applied Physics
  - Division of Building, Construction and Engineering
  - Institute of Animal Reproduction and Processing
  - Institute of Natural Resources and Environment
  - Institute of Plant Production and Processing
  - Institute of Industrial Technology
- Council of Adult Education
- Defence Service Homes Corporation
- Department of Aboriginal Affairs
- Department of the Arts, Sport, the Environment, Tourism and Territories
  - ACT Administration
  - ACT Housing Trust
  - Arts Branch
  - Conservation Division
  - Cultural Heritage Branch
  - Film Branch
  - Natural Heritage and Environment Protection Division
  - Sport and Recreation Branch
- Department of Community Services and Health
  - Housing Services Division
- Department of Defence
- Department of Employment, Education and Training
- Department of Energy (New South Wales)
- Department of Foreign Affairs and Trade
- Department of Housing (New South Wales)
- Department of Immigration, Local Government and Ethnic Affairs
- Department of Industrial Relations
- Department of Industry, Technology and Commerce
- Department of Industry, Technology and Resources (Victoria)
- Department of Mineral Resources (New South Wales)
- Department of Mines (Queensland)
- Department of Mines (Tasmania)
- Department of Mines (Western Australia)
- Department of Mines and Energy (Northern Territory)
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- Department of Primary Industries and Energy
  - Australian Fisheries Service
  - Australian Quarantine and Inspection Service
  - Land Resources Division

Department of Social Security
Department of Transport and Communications
Department of Veterans' Affairs
  Health Services Policy Branch
Department of Water Resources (New South Wales)
Dumaresq–Barwon Border Rivers Commission, Brisbane
Electricity Trust of South Australia
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Film Australia
Great Barrier Reef Marine Park Authority
Housing Loans Insurance Corporation (The Treasury)
Housing Tasmania
Hydro-Electric Commission (Tasmania)
Independent Airfares Committee
Industrial Design Council of Australia
Industries Assistance Commission
International Cultural Corporation of Australia
Joint Coal Board
Ministry of Housing and Construction (Victoria)
Murray–Darling Basin Commission
Musica Viva
National Association of Australian State Road Authorities
National Association of Testing Authorities, Australia
National Film and Sound Archive
National Heart Foundation of Australia
National Health and Occupational Safety Commission (Worksafe Australia)
National Library of Australia
National Museum of Australia
National Occupational Health and Safety Commission
National Standards Commission
Northern Territory Housing Commission
Northern Territory Power and Water Authority
Office of Film and Literature Classification
Overseas Telecommunications Commission, Australia
Queensland Electricity Commission
Queensland Housing Commission
Queensland Water Resources Commission
Radio Australia
Rail Industry Council
Rivers and Water Supply Commission, Hobart
Rural Water Commission of Victoria
SAGASCO
South Australian Housing Trust
Special Broadcasting Service
Standards Association of Australia
State Electricity Commission (Victoria)
State Electricity Commission (Western Australia)
State Housing Commission of Western Australia (Homeswest)
Tasmanian Development Authority
Water Authority of Western Australia
Westrail

GENERAL INFORMATION

Symbols
The following symbols, where shown in columns of figures or elsewhere in tables, mean:

n.a.	not available
n.y.a.	not yet available
—	nil or rounded to zero
. .	not applicable
n.p.	not available for separate publication (but included in totals where applicable)
p	preliminary-figure or series subject to revision
r	figures or series revised since previous issue
n.e.i.	not elsewhere included
n.e.c.	not elsewhere classified
n.e.s.	not elsewhere specified
——	break in continuity of series (where drawn across a column between two consecutive figures)
*	subject to sampling variability too high for most practical purposes.
	m.—males; f.—females; p.—persons.

Other forms of usage
The following *abbreviations* are used for the titles of the Australian States and Territories and Australia: NSW (New South Wales), Vic. (Victoria), Qld (Queensland), WA (Western Australia), SA (South Australia), Tas. (Tasmania), NT (Northern Territory), ACT (Australian Capital Territory), Aust. (Australia).

In general, the *statistics in this volume relate to the States and Territories of Australia* i.e. they exclude particulars of the External Territories of Australia, which, however, are specifically dealt with in Chapter 27, The Territories of Australia.

Yearly periods shown as e.g. 1986 refer to the year ended 31 December 1986: those shown as e.g. 1985-86 refer to the year ended 30 June 1986. Other yearly periods are specifically indicated. The range of years shown in table headings, e.g. 1901 to 1985-86 indicates the period covered, but does not necessarily imply that each intervening year is included.

Values are shown in Australian dollars ($ or $A) or cents (c) unless another currency is specified.

Catalogue numbers. Throughout this book references are made to ABS publications. In each case the catalogue number is shown in brackets: this should be quoted when ordering these publications (see below).

Where figures have been rounded, *discrepancies may occur between sums of the component items and totals.*

Availability of ABS publications
Information regarding the availability of ABS publications and other products can be obtained from Central Information Services Section, Australian Bureau of Statistics, PO Box 10, Belconnen ACT 2616, Australia, phone (062) 526627, or from ABS offices in any capital city in Australia.

A complete list of ABS publications produced in Canberra and in each of the State Offices is contained in the ABS *Catalogue of Publications and Products*, (1101.0) which is available from any ABS office.

In many cases, the ABS can also provide information which is not published or which is historical or compiled from a variety of published and unpublished sources. Information of this kind may be obtained through the Information Consultancy Service. This information may be made available in one or more of the following forms: consultancy reports, microfiche, floppy disk, magnetic tape, computer printout or photocopy. Charges are generally made for such information. Inquiries may be made by contacting Information Services in the nearest ABS office.

1

PRE–HISTORY TO FEDERATION

Early Knowledge and Discovery of Australia

Pre–history

Humans entered the Australian continent from the South-East Asian area during the last glaciation at least 40,000 years ago, at a time when sea levels were much lower than they are today. Even so, these first migrations would have involved a sea voyage of some 60 kilometres, making it possibly the world's earliest sea-borne migration. Settlement was well established 25,000 to 30,000 years ago and by 20,000 years ago almost the entire continent was inhabited.

The original Australians lived as hunter-gatherers, using tools of wood, bone, shell and stone. Archaeological evidence indicates that a simple pan-continental toolmaking tradition existed, characterised by stoneware tools; scrapers were used to fashion further tools out of wood. This continued until 5,000 to 6,000 years ago, at which time a range of more specialised small tools began to emerge. But, in Tasmania, isolated 12,000 years ago by the post-glacial rising seas, Aboriginals still maintained the culture of the late Pleistocene period, until subject to the influence of European settlement of the island.

Estimates by anthropologists of the Aboriginal population at the time of European settlement have varied greatly. In 1930, anthropologist Radcliffe-Brown postulated a minimum figure of 300,000, which was officially accepted by the government. Recent archaeological finds suggest that a population of 750,000 could have been sustained. They were divided into some 500 small groups and spoke a variety of languages and dialects. These groups or tribes were further divided into 'bands' or clusters of family groups and formed the basic self-sufficient economic unit. Labour was divided between the sexes: the men hunted while the women foraged for roots and seeds and caught small animals which also formed a basic part of their subsistence. Local groups would congregate when food or water supplies were abundant or when ceremonial obligations demanded. Exchanges at these ceremonial gatherings led to the wide dispersal of goods. Religious and ceremonial activities relating to the land were a vital part of Aboriginal life. Evidence suggests they had developed the use of ochre as a ritual painting material as early as 25,000 years ago.

The physical barriers of distance and aridity within Australia itself caused, in part, cultural isolation and linguistic diversity of its people. European exploration and settlement was for most Aboriginal societies their first contact with an outside culture. The impact of this settlement in those areas where the colonists established themselves led rapidly to the disappearance of the traditional Aboriginal way of life.

Speculation on the Great South Land

The Ancient Greeks, who are said to have believed the world was round, postulated the existence of a Great South Land. The Christian peoples of Middle Ages Europe, for religious reasons however, no longer believed in a global world and saw the earth as flat and bounded by the fiery edges of the equator.

First references to Australia came from the Greeks, the Arabs, the Chinese, the Malays and Indians but are thought to have been largely a product of imagination. To the Malays, for example, the Great South Land though not uninhabited was the Land of the Dead. To the Hindu-Buddhists, who came from the first century AD to colonise Sumatra and Java, there were 'islands of gold' to the south of Java and to the south-east of Timor but, like the Middle Ages Christians before them, the beliefs shaped dangers too perilous to confront.

The Chinese recognised the fantasy of these and similar reports which they would certainly have heard of while trading in the area. Their maps show they knew of the Malay Peninsula, Sumatra, Java, Bali, Lombok, Timor, the Moluccas, Celebes and Borneo. However, the distances involved were too great and the evidence too small and fanciful, and their primary aim was to maintain the freedom of their existing trade routes rather than embark on new explorations. By the time they might have felt any incentive to explore further, domestic political changes curtailed their outward growth.

It is unclear whether any of these peoples, constrained as they certainly were by religious, superstitious and domestic political factors, paid visits to Australia. If they did, their knowledge made no impact on the world at large or on the history of Australia. Contacts of that nature are part of our documented history and probably begin with the occurrence of 'Java the Great' in a number of French maps dating from the middle decades of the sixteenth century. Although the significance of 'Java the Great' is hotly debated, so long as the Portuguese are thought to have been possible discoverers of large portions of our continent, one cannot easily dismiss suggestions that the French were here in the sixteenth century also.

The Portuguese and the Spanish

Theories that place the Portuguese here sometime in the sixteenth century have some support from inconclusive charts and documents but the assumptions rest largely on three points: the extensive exploration undertaken by this highly civilised seafaring race elsewhere about the globe; the Portuguese obsession with the quest for wealth, knowledge and conversion; and the certainty that the Portuguese debated the issue of a 'terra australis incognita' (unknown southern land). Yet hard, clinching evidence of contact is lacking.

Viceroys of Spain's American empire regularly sought new lands. One such expedition left Callao, Peru, in December 1605 under Pedro Fernandez de Quiros, a man of the Counter-Reformation who desired that Catholicism should prevail in the southland. De Quiros reached the New Hebrides and named the island group 'Austrialia del Espiritu Santo' and he and some later Catholic historians saw this as the discovery of Australia. But the more important voyage was probably that of the other ship of the expedition that continued after de Quiros himself was forced to return to the Americas. Under Luis Vaez de Torres, this other ship sailed through Torres Strait but almost certainly failed to sight Australia. Although both de Quiros and de Torres returned to Hispanic America with enthusiasm for further explorations, they both failed to persuade Spanish officialdom to this course.

Discoveries by the Dutch

A few weeks before de Torres, the Dutch vessel *Duyfken*, after coming along the south coast of New Guinea from the west, swung over to the west coast of Cape York Peninsula in or about March 1606. Under the command of Willem Jansz, the *Duyfken* traversed some 200 miles of the Australian coastline as far as Cape Keer-Weer (Turn Again) without actually discovering Torres Strait. Subsequent visits were made by other Dutch vessels sailing from the Cape of Good Hope to Java which were often carried too far east and hit Australia. The first and most famous of these was Dirk Hartog's *Eendracht*, from which men landed and left a memorial at Shark Bay, Western Australia in October 1616. Hartog was followed by Houtman (1619), Carstensz (1623), Nuyts (1626–27), Thijssen (1627), Pelsaert (1629), Tasman (1642) and others.

Most important of all was the work of Abel Tasman, who was such a well-respected seaman in the Dutch East Indies that the Governor-General of the Indies, Anthony van Diemen, commissioned him to undertake a southern exploration. In November 1642, having made a great circuit of the seas, Tasman sighted the west coast of what he called Van Diemen's Land (Tasmania). He then explored New Zealand before returning to Batavia. A second expedition in 1644 contributed to the knowledge of Australia's northern coast, and established the name of 'New Holland' for the southern landmass.

Discoveries by the English

The English had made their first appearance on the Australian coast in 1688, when the north-westerly shores were visited by William Dampier in the trading vessel *Cygnet*. In 1699 he again visited Australia in command of HMS *Roebuck*. On his return to England, he published an account in which a description was given of trees, flowers, birds, and reptiles he had observed, and of his encounters with the natives.

Up until the end of the seventeenth century, it was not certain if Tasmania and New Zealand were parts of Australia or whether they were separated from it, yet formed part of a great Antarctic Continent. Lieutenant (later Captain) James Cook's first voyage, though undertaken primarily for the purpose of observing from Tahiti the transit of Venus, had also the objective of ascertaining whether the unexplored part of the southern hemisphere did in fact contain another continent. In command of HMS *Endeavour*, and accompanied by botanist Sir Joseph Banks, naturalist Dr Daniel Solander, astronomer Charles Green, draughtsmen and servants, James Cook, after observing the transit of Venus at Tahiti, turned towards New Zealand, sighting that land on 7 October 1769 in the vicinity of Poverty Bay.

On 20 April 1770, Cook sighted the Australian mainland at a place he called Point Hicks, naming it after his first-lieutenant, who saw it first. Coasting northwards, on 29 April 1770 he landed at Botany Bay. Cook resumed his voyage and sailed along the coast in a northerly direction for nearly 2,100 kilometres, before striking a coral reef in the vicinity of Trinity Bay where the *Endeavour* was seriously damaged. It was nearly two months before repairs were completed and Cook again set a course to the north through Torres Strait.

The Annexation of Australia

On 22 August 1770, Captain Cook took possession 'of the whole eastern coast, from latitude 38°S, to this place, latitude 10½°S, in right of His Majesty King George the Third', that is, over what now constitutes Victoria, the eastern parts of New South Wales and Queensland.

Annexation of the eastern part of the Australian continent and Tasmania

Formal possession, on behalf of the British Crown, of the whole of the eastern part of the Australian continent and Tasmania was taken on 7 February 1788, when Captain Phillip's commission, first issued to him on 12 October 1786 and amplified on 2 April 1787, was read to the people whom he had brought with him in the 'First Fleet'. The commission appointed Phillip

> Captain-General and Governor-in-Chief in and over our territory called New South Wales, extending from the Northern Cape or extremity of the coast called Cape York, in the latitude of ten degrees thirty-seven minutes south, to the southern extremity of the said territory of New South Wales or South Cape, in the latitude of forty-three degrees thirty-nine minutes south and of all the country inland, westward as far as the one hundred and thirty-fifth degree of east longitude, reckoning from the meridian of Greenwich, including all the islands

> adjacent in the Pacific Ocean within the latitude aforesaid of ten degrees thirty-seven minutes south and forty-three degrees thirty-nine minutes south.

By the middle of 1829, the whole territory, now known as Australia, had been constituted a dependency of the United Kingdom.

CHRONOLOGICAL TABLE OF MAJOR EVENTS IN AUSTRALIA SINCE 1788

1788
Arrival of 'First Fleet' at Botany Bay. Land in vicinity found unsuitable and the expedition moved to Sydney Cove on 26 January. Formal proclamation of the colony and the establishment of a regular government on 7 February.

1790
'Second Fleet' arrives with New South Wales Corps.

1791
'Third Fleet' arrives. Territorial seal brought by Governor King.

1792
Visit of the first foreign trading vessel, the *Philadelphia*.

1793
Arrival of the first free immigrants on the *Bellona*. First Australian church opened in Sydney.

1795
First printing press opened in Sydney.

1797
Introduction of merino sheep from the Cape of Good Hope. Coal discovered near Newcastle.

1798
Tasmania is proved to be an island by the voyage of Bass and Flinders.

1800
First Customs House established in Sydney.

1802
Discovery of Port Phillip.

1803
First Australian wool taken to England. Issue of the *Sydney Gazette*, the first Australian newspaper. First settlement at Port Phillip attempted.

1804
Hobart founded. Abandonment of settlement at Port Phillip.

1805
First extensive sheep farm established at Camden by Captain Macarthur.

1807
First shipment of merchantable wool from New South Wales to England.

1809
Free school established in Sydney.

1810
Post Office established in Sydney.

1813
Passage of the Blue Mountains discovered by Wentworth, Lawson and Blaxland.

1814
The name 'Australia', instead of 'New Holland', suggested by Flinders. Civil courts created.

1815
First free settlers arrive in Hobart.

1816
Sydney Hospital opened.

1817
First bank in Australia—Bank of New South Wales—opened in Sydney.

1821
Penal settlement at Macquarie Harbour in Tasmania established.

1823
New South Wales Judicature Act passed.

1824
New South Wales constituted a Crown Colony. Executive Council formed. Supreme Court at Sydney established, and trial by jury introduced. Penal settlement founded at Moreton Bay, Brisbane.

1825
Tasmania proclaimed a separate colony.

1827
First official claim of British sovereignty over all Australia.

1828
Second Constitution of New South Wales and first census.

1829
Foundation of Perth as a settlement on Swan River, Western Australia.

1830
Publication of *Quintus Servinton*, first novel to be published in Australia.

1831
SS Surprise, the first steamship built in Australia, launched at Sydney. First coal ship from Newcastle launched. First assisted immigration to New South Wales.

1835
Foundation of Melbourne.

1836
Foundation of Adelaide. Port Phillip (Victoria) district proclaimed as open for settlement.

1838
Assignment of convicts discontinued. Settlement at Port Essington, Northern Territory.

1840
Transportation of convicts to New South Wales abolished. Moreton Bay (Queensland) opened for free settlement.

1841
New Zealand proclaimed a separate colony from New South Wales.

1842
Incorporation of Sydney and incorporation of Melbourne.

1843
First Representative Constitution of New South Wales.

1847
Overland mail established between Sydney and Adelaide.

1849
Exodus of population to the goldfields of California. Transportation to Western Australia commenced.

1850
Final abolition of transportation to New South Wales. Sydney University founded. Representative government granted to Victoria and Tasmania.

1851
Gold discovered in New South Wales. Port Phillip created an independent colony under the name of Victoria. Legislative Council established in Western Australia.

1852
Arrival of *Chusan*, first P & O mail steamer from England.

1853
Transportation to Tasmania abolished. Melbourne University founded.

1854
Riots on the Ballarat goldfields and the Eureka Stockade stormed. Telegraph first used. First Australian Railway opened in Victoria.

1857
Manhood suffrage and vote by ballot introduced in Victoria.

1858
Manhood suffrage and vote by ballot introduced in New South Wales. Sydney, Melbourne and Adelaide linked by telegraph.

Population of Australia reached 1,000,000.

1859
Queensland proclaimed a separate colony.

1860
Burke and Wills expedition leaves Melbourne.

1861
Anti-Chinese riots on goldfields of New South Wales. Regulations introduced on Chinese immigration. Burke and Wills perish at Coopers Creek, South Australia. World's first freezing works built in Sydney, eventually leading to meat exports. First Melbourne Cup held.

1863
Intercolonial Conference in Melbourne.

1864
First sugar made from Queensland cane.

1866
Camels introduced to South Australia.

1867
First Royal visit to Australia. Protective tariff imposed.

1868
Hougomont, the last convict ship arrived in Western Australia.

1870
Intercolonial Exhibition held in Sydney. Imperial troops withdrawn from New South Wales. Intercolonial Congress in Melbourne.

1871
Permanent military forces raised in New South Wales.

1872
Telegraph cable from Java to Port Darwin. Transcontinental telegraph line completed.

1873
Intercolonial Conference at Sydney. Mail service with San Francisco inaugurated.

1874
Intercolonial Conference at Sydney. University of Adelaide founded.

1876
Completion of telegraph cable between Sydney and Wellington, New Zealand.

1877
Population of Australia reached 2,000,000.

1878
Chinese immigration to Queensland restricted. Telephone introduced to Australia.

1880
First telephone exchange opened in Melbourne. Federal Conference at Sydney and Melbourne. Women first admitted to universities.

1881
Censuses taken on same date in all colonies for the first time.

1883
New South Wales and Victoria linked by railway. Federal Conference held at Sydney.

1884
Federation Bill passed in Victoria but rejected in New South Wales. British protectorate declared over New Guinea.

1885
Australian contingent sent to the war in Sudan.

1887
First 'Colonial' Conference held in London.

1888
Railway communication opened between Sydney and Brisbane. World Expo held in Melbourne to commemorate Australia's centenary.

1889
A new Constitution framed in Western Australia. Railway communication opened between Melbourne and Adelaide.

Population of Australia reached 3,000,000.

1890
Western Australia granted responsible government. Australasian Federation Conference at Melbourne. University of Tasmania founded.

1891
First Federal Convention at Sydney, draft Bill framed and adopted. Assisted immigration to New South Wales ceased.

1893
Financial crisis in eastern States.

1894
Women's suffrage granted in South Australia—first Australian State to do so.

1895
Conference of Premiers on Federation at Hobart. Land and income taxes introduced in New South Wales.

1897–98
Sessions of Federal Convention at Adelaide, Sydney and Melbourne.

1898
Draft Federal Constitution Bill rejected by New South Wales.

1899
Australian troops sent to war in South Africa. Conference of Premiers in Melbourne, Federal Constitution Bill amended.

1900
Naval troops sent to war in China. Commonwealth Constitution Act received Royal Assent, 9 July. Proclamation of the Commonwealth signed 17 September. Mr (later Sir) Edmund Barton formed the first Federal Ministry. Old age pension instituted in New South Wales.

1901
Commonwealth proclaimed at Sydney. First Commonwealth Parliament opened at Melbourne. Interstate free-trade established.

1903
The Federal High Court inaugurated.

1904
Commonwealth Conciliation and Arbitration Act passed.

1905
Census and Statistics Act. Assisted immigration to New South Wales re-introduced.

Population of Australia reached 4,000,000.

1906
Papua taken over by the Commonwealth of Australia.

1907
First telephone trunk line service between the capital cities. Imperial Conference in London.

1908
Canberra chosen as the site of the Australian Capital.

1909
Imperial Defence Conference in London. Queensland University founded. The Commonwealth Age Pension Scheme introduced.

1910
Penny postage. Australian Notes Act passed and the first Commonwealth notes issued. Arrival of the first vessels built for the Royal Australian Navy, the *Yarra* and the *Parramatta*.

1911

First Commonwealth Census taken. The Australian Capital Territory and the Northern Territory transferred to the Commonwealth. Compulsory military training introduced.

1912

Commonwealth Bank opened. First payments of Maternity Bonus. University of Western Australia founded.

1913

Canberra officially named as the Australian Capital and the foundation stone laid.

1914

Norfolk Island transferred to the Commonwealth. War declared in Europe on 4 August. Australian and New Zealand Army Corps (ANZAC) formed. Australia's first aerial mail, flown from Melbourne to Sydney.

1915

ANZAC troops landed at Gallipoli, 25 April. Evacuated 18–20 December. Commonwealth Census planned but shelved. Broken Hill Proprietary's ironworks at Newcastle, New South Wales, opened.

1916

Australian and New Zealand mounted troops in Egypt, Palestine and Syria. First proposal for compulsory military service overseas defeated by referendum.

1917

Second referendum on conscription for overseas service defeated. Transcontinental railway completed.

1918

Australian divisions in France blunt the German offensive. Australia House opened in London. Armistice with Germany, 11 November.

Australia's population reached 5,000,000.

1919

Peace Conference. Peace Treaty signed at Versailles, 28 June. Flight from England to Australia by Captain Ross Smith and Lieutenant Keith Smith.

1920

Imperial Statistical Conference in London. Qantas began operations.

1921

Mandate given to Australia over the Territory of New Guinea. Second Commonwealth Census.

1922

Queensland Legislative Council abolished.

1923

First Australian radio broadcast.

1925

Australian population reached 6,000,000.

1926

Council for Scientific and Industrial Research (CSIR) established.

1927

Seat of Commonwealth Government transferred from Melbourne to Canberra.

1929

Peace-time compulsory military training abolished in favour of a voluntary system.

1930

World-wide economic depression reached Australia. First Australian appointed Governor-General of Australia (Rt Hon. Sir Isaac Alfred Isaacs, GCMG, Chief Justice of the High Court).

1932

Sydney Harbour Bridge opened. The Australian Broadcasting Commission established. Imperial Economic Conference held in Ottawa.

1933

World Economic Conference held in London. Antarctica and Ashmore and Cartier islands taken over by the Commonwealth. Third Commonwealth Census.

1934

England–Australia Air Mail Service inaugurated.

1935

Empire Statistical Conference at Ottawa.

1936

Tasmania linked with the mainland by submarine telephone cable.

1937

Imperial Conference in London.

1938

New trade treaty with Japan.

1939

War declared on Germany, 3 September. Australian troops embarked for the Middle East, 15 December.

Australia's population reached 7,000,000.

1940

Exchange of Ministers between Australia and the United States marked Australia's entry into the field of direct diplomatic representation with countries other than the United Kingdom. First Australian convoy sailed for Middle East.

1941

Australian Eighth Division arrived in Malaya. Japanese attacked Pearl Harbour, Malaya, Thailand, Hong Kong and the Philippines. Australia declared war on Japan, 9 December. Establishment of Child Endowment scheme.

1942

General Douglas Macarthur set up headquarters of South West Pacific Command in Melbourne. Battle of the Coral Sea. Federal uniform taxation adopted. Commonwealth widows' pension introduced.

1944

Referendum refused Commonwealth Government increased power in the post-war period.

1945

Australia ratified the United Nations Charter. War in Europe ceased, 8 May. War in Pacific ceased, 15 August. Banking Act introduced to regulate banking and to protect the currency and public credit.

1946

The Commonwealth Employment Service inaugurated. Trans Australian Airlines began operations. Constitution Alteration Referendum granted powers with regard to social services to the Commonwealth Government.

1947

End of demobilisation. Census of Australia held.

1948

Forty-hour week effective throughout Australia. First Holden motor car produced.

1949

Nationality and Citizenship Act operative. Certain Aboriginals granted franchise at Federal elections for the first time. Coal miners strike over hours, wages and leave claims. Australian Whaling Commission established. The Snowy Mountains Hydro-electric Power Scheme commenced.

Australia's population reached 8,000,000.

1950

Severe floods in New South Wales. Australian forces joined the British Commonwealth Brigade in the Korean War. Conference of Commonwealth Prime Ministers in London.

1951

Jubilee celebrations marked the fiftieth year of Australian Federation. Heard Island and the McDonald Islands transferred to the Commonwealth. Hostilities with Germany officially ceased. Japanese Peace Treaty signed. Third Conference of Government Statisticians of the British Commonwealth held in Canberra.

1952

Widespread bushfires in Victoria, New South Wales and the Australian Capital Territory. Third British Commonwealth Scientific Official Conference held in Canberra and Melbourne. Uranium deposits discovered at Rum Jungle, Northern Territory. British detonate atomic weapon on Monte Bello Islands off the north-west coast. British Commonwealth Economic Conference in London.

1953

Television Act authorised the establishment of both Government and Commercial television stations. Northern Territory Aboriginals given citizenship rights. Atomic Energy Commission established. Korean armistice signed.

1954
Australian Census taken. Transfer of Cocos Islands to the Commonwealth proposed. Queen Elizabeth II became the first reigning monarch to visit Australia.

1955
Food and Agriculture Organization Conference held in Brisbane. Australian troops sent to Malaya. Cocos (Keeling) Islands became a Commonwealth Territory. First power generated by the Snowy Mountains Hydro-electric Authority.

Australian population reached 9,000,000.

1956
Olympic Games held in Melbourne. Bilateral agreement signed between Australia and the United States for peaceful uses of atomic energy. Regular television transmissions commenced.

1958
Lucas Heights nuclear reactor opened near Sydney. Christmas Island transferred to Commonwealth administration.

1959
Population of Australia reached 10,000,000.

1960
Provision made for Social Service benefits to be paid to Australian Aboriginals.

1961
Oil is discovered in south-west Queensland. Iron-ore deposits estimated at 1,800 million tons discovered at Pilbara, Western Australia. Population Census taken.

1962
Commonwealth and Western Australian Electoral Acts amended to provide for votes for Aboriginals. Aboriginals exercise voting rights in the Northern Territory for first time.

1963
Australia signed Nuclear Test Ban Treaty.

Australian population reached 11,000,000.

1964
RAN Destroyer *Voyager* sunk in collision. Army send advisers to Vietnam.

1965
Royal Australian Mint opened. Australian troops go to war in Vietnam. First trade agreement between Australia and the USSR. Economic sanctions imposed on Rhodesia.

1966
Australia adopted decimal currency. Census of population held. Permanent employment of married women by Australian Government proclaimed.

1967
Worst bushfires in the history of Tasmania damaged Hobart and southern Tasmania. New white ensign adopted by the RAN. Australia launched its first satellite at Woomera.

1968
Australian population reached 12,000,000.

1969
The Arbitration Commission handed down its decision on equal pay for women. Bass Strait under-sea oil piped to shore for the first time.

1970
Australia signed the Nuclear Non-Proliferation Treaty. Coal miners in three States are awarded a 35 hour working week. Voting age reduced to 18 in Western Australia.

1971
Australia joined the OECD. Population Census held. Australian troops withdrew from Vietnam. Daylight saving adopted in New South Wales, Victoria and the Australian Capital Territory.

Australian population reached 13,000,000.

1972
Female employees received full entitlement to equal pay. Celsius adopted in lieu of the Fahrenheit thermal measure. Australian Labor Party won Federal election for first time in 23 years. Australia established diplomatic relations with the People's Republic of China and the German Democratic Republic.

1973

Papua New Guinea attained self-government. All tariffs cut by 25 per cent. First meeting of the Aboriginal Consultative Committee.

1974

Major floods and storms caused damage in the eastern States. Cyclone Tracey hits Darwin. Plans announced for maximum security laboratory to protect livestock against exotic diseases. Colour television introduced.

1975

Medibank introduced. Federal Parliament dissolved and the Australian Labor Party defeated at a general election on 13 December. Papua New Guinea ceased to be an Australian territory and became an independent nation. Australia Council created.

1976

Census of Australia held. Australian Savings Bonds introduced.

Australian population reached 14,000,000.

1977

Aboriginal Land Rights Act passed. Granville rail disaster claimed 80 lives.

1978

Northern Territory gained self-government. Federal Government recognised the absorption of Timor into Indonesia. 'Boat people', refugees from Indo–China arrived in large numbers.

1979

Series of serious strikes in opposition to Fraser Government's economic policies. Severe bushfires threatened Sydney. Tasmanian Hydro-Electric Commission released a report recommending a massive power development scheme in south-west Tasmania, sparking the commencement of the controversial 'Save the Franklin' campaign.

1980

Whale Protection Act passed. Multicultural television broadcasting commenced. Drought takes hold across Australia. Fraser Government returned to office.

1981

Census of Australia held. (Campbell) Committee of Inquiry into the Australian Financial System recommended deregulation.

Australian population reached 15,000,000.

1982

Australian economy depressed. Severe drought in the eastern States. Australian National Gallery opened in Canberra. Commonwealth Games held in Brisbane. Freedom of Information Act became operative.

1983

General election held, resulting in an Australian Labor Party victory. Australia won the Americas Cup. Severe bushfires in Victoria and South Australia. Medicare introduced. Prices Surveillance Authority created. Cocos (Keeling) Islanders voted to integrate with Australia. Royal Commission into British Nuclear Tests in Australia established.

1984

Nuclear Disarmament Party (NDP) formed. Hawke Government returned to office. Referenda on State–Commonwealth transfer of powers and the simultaneous election of the House of Representatives and the Senate rejected. Parliament increased in size: House of Representatives from 125 to 148 and Senate from 64 to 76. World's first frozen embryo baby born in Melbourne.

1985

Ban placed on uranium exports to France. Substantial deregulation of the banking system. Economic summit on tax reform. Split in the Nuclear Disarmament Party. Report of the Royal Commission into British Nuclear Tests in Australia tabled in Parliament.

1986

Constitutional severance from the United Kingdom. Car bomb exploded at Turkish Consulate in Melbourne. Census held. Sighting of Halley's Comet. Twelve miners died in a mine cave-in at Moura, Queensland. Bomb exploded at Melbourne Police Headquarters. Pope visited Australia. Aussat launched.

Australia's population reached 16,000,000.

1987

Hawke Government returned to power in July general election. Australia lost Americas Cup. Prime Minister Hawke announced plans to streamline government administration.

1988
Bicentennial Year. Celebrations included the re-enactment of the First Fleet's voyage and the staging of Expo 88 in Brisbane. Referendum held on four Constitutional amendments soundly defeated.

Sources: Keesing's Contemporary Archives: Record of World Events. The Annual Register: A Record of World Events. Year Book Australia. Acts of the Parliament of the Commonwealth.

The Exploration of Australia

Early exploration

From 1788, when Governor Phillip established his colony on the shores of Port Jackson, expeditions began to explore the immediate area of settlement in search of good farming land. Among suitable locations discovered were those just above the head of the Parramatta River, where the settlement of Rose Hill (later Parramatta) was established in November 1788, and the alluvial flats of the Hawkesbury River, which were explored in 1789.

Other minor exploratory journeys in the 1790s and early 1800s included: John Wilson's investigation of various parts of the Southern Highlands of New South Wales, Lieutenant John Shortland's discovery of the Hunter River and the future site of Newcastle, and expeditions by Henry Hacking (1794), George Bass (1796), Francis Barrallier (1802) and George Caley (1804) in attempts to penetrate the mountain foothills west of the Nepean River.

After two decades of colonisation, settlement stretched along the east coast from the Hawkesbury River to the cedar forests of Illawarra yet reached barely 65 kilometres inland, where a seemingly impenetrable barrier was presented in the form of the Blue Mountains.

In 1813 Gregory Blaxland, Lieutenant William Lawson and William Charles Wentworth succeeded in finding a route through the mountain range, thereby allowing the later exploratory parties of George William Evans (1813 and 1815), John Oxley (1817 and 1818), Allan Cunningham (1823 and 1827), Hamilton Hume and William Hovell (1824) and others, to open the way for expansion from Port Phillip in the south, to the Darling Downs in the north.

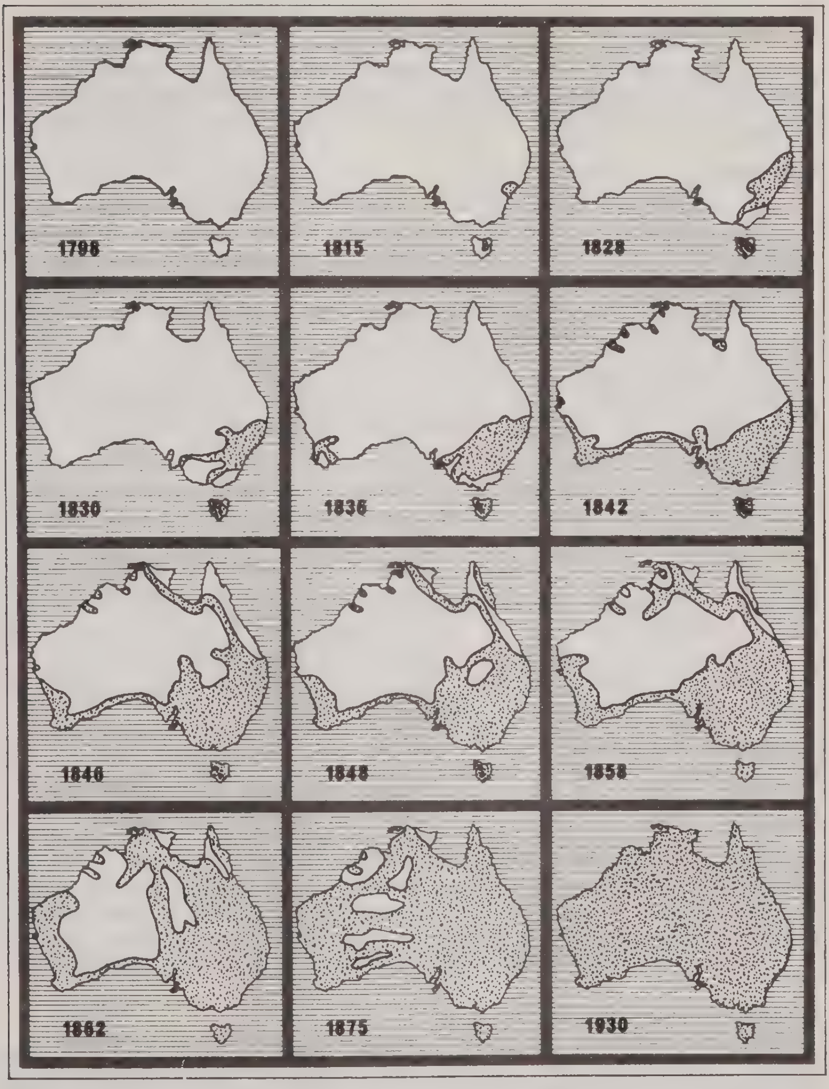
The eastern rivers and to the south

From 1828 to 1841, exploration of south-eastern Australia was concerned mainly with establishing whether or not a large river system emptying into the sea on the south coast existed.

Between December 1828 and February 1829, an expedition led by Charles Sturt followed the Macquarie River to its meeting with the Darling River. Sturt also explored part of the Castlereagh River. On his next expedition, in 1830, Sturt pieced together more of the network of waterways which make up the Murray–Darling system by following the Murrumbidgee River from Jugiong down to the junction with the Murray, which he then followed as far as Lake Alexandrina and Encounter Bay on the southern coastline. Sturt completed his exploration of the Murray in 1838 by investigating and charting its upper reaches.

Meanwhile, Captain John Macarthur and others had discovered that merino sheep were naturally suited to the dry climate of inland Australia. The colony's wool industry flourished, and by 1831, 1,340 tonnes of fine wool was being exported annually. As a result of the wool boom, settlers became anxious to push further inland in the search for new pastures.

In three expeditions between 1831 and 1836, Thomas Livingston Mitchell explored the Liverpool Plains and discovered the Macintyre River; discovered well-grassed country at the junction of the Darling and Bogan rivers; explored the Lachlan River to its meeting with the Murrumbidgee River, the Murray with its meeting with the Darling River, and


1798
1815
1828
1830
1836
1842
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1848
1858
1862
1875
1930

south and south-east of the Murray through the region called 'Australia Felix' to Discovery Bay on the southern coast.

The push south continued and, in 1838, Angus McMillan discovered a practicable route from Monaro to the southern coastline. In 1840, Paul Edmund de Strzelecki made a journey from the Murrumbidgee River, south to Melbourne, during which he discovered and named Mount Kosciusko.

The south

In 1831 Captain Collet Barker landed at what was to become Port Adelaide. Later, cattle-droving journeys undertaken by Joseph Hawdon, Charles Bonney, Charles Sturt and E.J. Eyre, established links between the settlement of Adelaide and other settlements in the east of the State.

In August 1844 Charles Sturt led a sixteen-man expedition from Adelaide into the interior with instructions to investigate a theory that an inland sea existed. After much hardship and near disaster during a period of exceptional heat in the region, Sturt found the channels of Cooper's Creek which formed part of the inland river system of Queensland. However, with the waters drying up rapidly in November 1845, heat and his health deteriorating, Sturt was forced to retreat, mistakenly declaring the land to be worthless.

North-eastern Australia

In 1844 Ludwig Leichhardt left Jimbour Station on the Darling Downs, to lead an expedition on an epic fourteen and a half month, 4,800 kilometre journey north and north-west to Port Essington, thereby winning a reputation for opening up large tracts of rich grazing land. In 1848 however, while on another expedition, he and his party disappeared without trace when attempting to cross the continent westwards to Perth. Ironically, much valuable incidental exploration was carried out when search parties attempted to find them.

Meanwhile, Thomas Mitchell's fourth expedition in 1846 had failed in its objective to find a river which flowed to the northern coast, but did lead to the opening up of good pastoral country in the Maranoa and Barcoo Rivers regions.

In 1848 E.B. Kennedy was speared to death by local Aboriginals while exploring the interior of Cape York Peninsula from Rockingham Bay to the Cape.

In the mid to late 1850s, Angus C. Gregory led two expeditions: one, in 1855 across northern Australia in a west–east direction from the mouth of the Victoria River to the east coast at Port Curtis; and the other, in 1858, from the Barcoo River south to Adelaide.

Exploration of what was by then the new colony of Queensland was continued through the 1860s and 1870s by George Dalrymple, Ernest Henry, the Macdonald brothers, William Hann, James Venture Mulligan, R.L. Jack and others. These led to the founding of such towns as Bowen, Rockhampton and Mackay, and the opening up of much valuable farming land.

Across the continent south to north

In the late 1850s and early 1860s most exploratory interest was concentrated on Central Australia, especially after John McDougall Stuart raised a Union Jack on what he considered to be the geographic centre of the continent, Central Mount Stuart, in April 1860. The South Australian Government had previously offered a large reward to the first explorer to cross Australia from south to north.

In August 1860 Robert O'Hara Burke and W.J. Wills set out from Melbourne with a large party to take up the challenge. On 11 February 1861, four expedition members (Burke, Wills, John King and Charles Gray) reached a mangrove swamp on what appeared to be the coast at the Gulf of Carpentaria (though they could not see the sea). After a succession of sorry incidents, however, Burke, Wills and Gray all died of exposure and starvation while on their return journey.

As in the case of Leichhardt, search parties sent out after Burke and Wills discovered much valuable land in their own right; John McKinlay led an expedition from Adelaide to the north-east; William Landsborough from the Gulf of Carpentaria southward; and Frederick Walker from Rockhampton to the west.

Meanwhile, John McDougall Stuart had set out from Adelaide on his own expedition across Australia and, in July 1862, reached the sea at Van Diemen Gulf.

The west

As early as 1697, Willem de Vlamingh of the Dutch ship *Geelvinck*, carried out limited inland exploration on the west coast of Australia in the vicinity of the Swan River. However, the first major inland exploration in the colony of Western Australia took place 130 years later when, in 1827, Edmund Lockyer explored the watershed of the Kalgan River to within about 60 kilometres of its mouth.

In the 1830s exploration and settlement were directed mainly to the south of the city of Perth (founded in 1829). Among the explorers during this decade were: Ensign Robert Dale, who found the rich agricultural land of the Avon Valley (1830); Lieutenant H.W. Bunbury, who opened the way to rich pastoral flats in the south-west (1836); and Captain George Grey, who discovered the rich hinterland that now serves Geraldton (1839).

In 1848 J.S. Roe, who had also conducted several exploratory journeys in the 1830s, discovered good grazing country while on a 2,900 kilometre York–Pallinup River, Russell Range–Bunbury–Perth trek.

During the 1850s and 1860s the south-west was extensively occupied as far south as Albany and Kojonup, while to the north the Greenough district rapidly developed into the principal wheat-producing region of the State.

Due largely to the efforts of Grey in the 1830s, the Gregory brothers in the 1840s, 1850s and 1860s, and the Forrest brothers in the 1860s and 1870s, pastoralists were able to gradually push further north and occupy the Murchison, Gascoyne and De Grey districts. By the 1880s, again due largely to exploration by the Forrest brothers, the Kimberley region was also settled.

The hinterland

In 1875 Ernest Giles set out from Beltana, South Australia, and made a 4,000 kilometre journey to Perth. Two years earlier, two other parties, led by Peter Egerton Warburton and W.C. Gosse, had explored west from the MacDonnell Ranges to the Oakover River, and from Alice Springs to Perth respectively.

Exploration of the hinterland was continued by W.P. Goddard (1890), J.H. Rowe (1895), A.W. Canning and others into the early twentieth century.

Tasmania

In 1793 Lieutenant John Hayes, commander of the *Duke of Clarence* expedition, sailed up the Derwent River to the foot of Mount Direction from where he proceeded by boat up to the present site of New Norfolk. He became the first explorer to journey more than a few kilometres inland from the coast of Van Diemen's Land (by which name Tasmania was known until 1856). Then, as always, the island's rugged topography hindered any extensive exploration, and it was not until 1807 that Lieutenant Thomas Laycock crossed the island from Port Dalrymple to Hobart.

Much early exploration was carried out either with the encouragement of Lieutenant-Governor William Sorell (including expeditions aimed primarily at discovering the nature of the west coast and determining its suitability for a future penal settlement), or under the auspices of the Van Diemen's Land Company which fostered efforts to find land suitable for agricultural settlement.

Some of the most noteworthy of Tasmania's early explorers were official surveyors, including John Oxley, G.W. Evans and Thomas Scott who, between 1820 and 1837 examined parts of the east, north-west and west coasts and, no doubt, influenced decisions to establish the infamous penal settlements at Macquarie Harbour (in 1822) and Port Arthur (in 1830).

Between 1820 and 1840, a considerable amount of incidental exploration resulted, both from expeditions to round up the remaining Tasmanian Aboriginals following the declaration of martial law against them in 1828, and from the personal encouragement by Lieutenant-Governor Sir John Franklin of scientific expeditions to Tasmania in the late 1830s and early 1840s.

During 1840 and 1850, licensed surveyor N.L. Kentish was responsible for opening up the rich pastoral areas between the north-west coast and the high mountains, while Assistant-Surveyor James Scott explored much of the north-east.

The 1860s and 1870s were marked by a number of exploratory journeys in search of minerals, including those of Charles Gould (1862), who found traces of silver, lead and gold in the Franklin and Gordon Valleys; James Smith (1871), who discovered tin at Mount Bischoff, destined to become the richest mine of its kind in the world; and C.P. Sprent (1876–77), who found gold, copper, osmiridium and platinum while prospecting between the Arthur and Pieman Rivers.

The Federal Movement in Australia

Due to the size of the Australian continent and the circumstances surrounding the establishment of the various settlements, the initial tendency was toward individual evolution of the separate colonies. However, it was not long before the importance of intercolonial relationships was clearly recognised.

Governor Fitzroy, in 1846, and Earl Grey, in 1847, saw that there were questions which affected 'Australia collectively, the regulation of which in some uniform manner, and by some single authority, may be essential to the welfare of them all', and a 'central legislative authority for the whole of the Australian colonies' was actually contemplated. Even as far back as 1849, a Privy Council Committee recommended a uniform tariff, and the constituting of one of the Governors as Governor-General of Australia, Sir Charles Fitzroy being actually appointed as 'Governor-General of all her Majesty's Australian Possessions'. The office, however, was nominal rather than actual, and expired in 1861. Dr Lang's idea of 'a great federation of all the colonies of Australia' was put forward in 1852, and a Victorian committee in 1853 advocated the value of a General Assembly of Delegates for the whole of Australia.

The need of union was urged by the *Sydney Morning Herald* in 1854, and although Wentworth sought in 1857 to bring about the creation of a Federal Assembly, a draft 'Enabling Bill' proved unacceptable to Her Majesty's Government. In the same year Mr (afterwards Sir) Charles Gavan Duffy secured the appointment of a select committee of the Victorian Legislative Assembly to consider the necessity of a federal union of the Australasian colonies. The need for such a union was unanimously affirmed, the general opinion being that it should not be longer delayed. In the same year, a select committee of the New South Wales Legislative Council also considered this question, fully recognizing that antagonisms and jealousies were likely to arise through delay.

Union was a fair way towards realisation when the advent of the Cowper Administration destroyed all chance of attaining it, owing to the antagonism of Mr Cowper and Mr (afterwards Sir) James Martin. South Australia, also in the same year, and Queensland in

1859, were both unfavourable to the federal scheme. A second attempt by Mr Duffy to bring about a conference in 1860 failed also.

Tariff differences, however, compelled political attention to the matter, and in 1862 correspondence was opened up by South Australia regarding tariff uniformity. By means of Intercolonial Conferences between 1863 and 1880 some degree of uniformity in legislation and a measure of concerted administration were realised. In March 1867, Mr (afterwards Sir) Henry Parkes expressed himself as follows:

> . . . The time has arrived when these colonies should be united by some federal bond . . . There are questions projecting themselves . . . which cannot be dealt with by . . . individual Governments . . . I believe it will lead to a permanent federal understanding.

The Federal Council

The conference of November–December 1880 and January 1881 recommended the creation of a federal council, believing that the time had not arrived for a federal constitution with a federal parliament. Until 1883, however, every effort proved abortive. In November of that year, a convention, at which the seven colonies and Fiji were represented, met in Sydney. A Bill to establish the Federal Council for Australasia, drafted by Mr (later Sir) Samuel Griffith was, after some modification by a committee of the convention, adopted. In July and August 1884, the Crown was addressed, requesting the enactment of a Federal Council Act. New South Wales and New Zealand, however, endorsed the view of Sir Henry Parkes that a 'Council' would impede the way for a sure and solid federation. The Bill, introduced by the Earl of Derby in the House of Lords on 23 April 1885, became law on 14 August as *The Federal Council of Australasia Act 1885*. The Council's career, however, soon showed that it could not hope to be effective and it met for the last time in January 1899.

Formative stages of the federal movement

As early as 1878, the necessity for federal defence was vividly brought into Australian consciousness, and arrangements for naval protection were entered into with the Imperial Government. These were ratified by the Australasian Naval Force Act. Queensland however, did not come into line until 1891.

Early in 1889, Sir Henry Parkes had suggested to Mr Duncan Gillies the necessity for a federal parliament and executive. Unable to accept the latter's suggestion that New South Wales should give its adhesion to the Federal Council, the former Statesman urged the institution of 'a National Convention for the purpose of devising and reporting upon an adequate scheme of Federal Government'. This led to the Melbourne Conference of 6 February 1890. It was at the banquet of this occasion that, in proposing 'A United Australasia', Mr James Service pointed out that the tariff question was 'a lion in the path', which federationists must either slay or by which they must be slain. In the reply Sir Henry Parkes made use of his historic phrase, 'the crimson thread of kinship runs through us all'. Certain elements of doubt being expressed as to the motives underlying the movement, Sir Henry Parkes said:

> We desire to enter upon this work of Federation without making any condition to the advantage of ourselves, without any stipulation whatever, with a perfect preparedness to leave the proposed convention free to devise its own scheme, and, if a central Parliament comes into existence, with a perfect reliance upon its justice, upon its wisdom, and upon its honour . . . I think an overwhelming majority of my countrymen . . . will approve of the grand step . . . uniting all the colonies under one form of beneficient government, and under one national flag.

The first National Australasian Convention, under Sir Henry Parkes' presidency, was convened on 2 March 1891, all the Australian colonies and New Zealand being represented. The Bill then drafted was considered by the Parliaments of New South Wales, Victoria, South Australia and Tasmania, but not by those of Queensland, Western Australia and New Zealand, and though the parliamentary process of dealing with the matter failed, federal sentiment was strengthening. The collapse of the 'land boom' had made apparent how intimately the interests of the several colonies were related, and the dangers of disunion became impressively obvious. The Australian Natives' Association took up the federal cause with enthusiasm, Federation leagues were established, the issues were widely and intelligently discussed. The unification scheme of Sir George Dibbs helped to make the issue a real one.

At the Conference of Premiers at Hobart on 29 January 1895, it was agreed that Federation 'was the great and pressing question of Australian politics', and that 'the framing of a Federal Constitution' was an urgent duty. The resuscitation of the whole matter led to the passing of Enabling Acts. In New South Wales, the Act received the Royal assent on 23 December 1895; South Australia anticipated this by three days; the Tasmanian Bill was passed on 10 January 1896; the Victorian on 7 March 1896 and Western Australia fell into line on 27 October 1896. The 'People's Federal Convention' held at Bathurst, New South Wales, in November 1896, gave a considerable impulse to the movement; to wait longer for Queensland was considered unnecessary, and 4 March 1897 was fixed as the date for the election of federal representatives for New South Wales, Victoria, South Australia and Tasmania. Western Australia followed suit, and on 22 March the representatives met at Adelaide.

The discussions made it evident that the federal point of view had advanced considerably. Constitutional, Finance, and Judiciary Committees were appointed, and a Bill was drafted. This, reported to the Convention on 22 April, was adopted on the following day, and the Convention adjourned until September. The Parliaments of New South Wales, Victoria, South Australia, Tasmania and Western Australia discussed the question before the Sydney Session of the Convention, which opened on 2 September 1897. The business of the Convention involved the general reconsideration of the whole Bill, and the consideration of no less than 286 suggested amendments. This work gave a definite character to that of the Melbourne Session of 1898, extending from 20 January to 17 March, the necessity for reaching a final decision giving weight to its deliberations.

Votes on the question of Federation

Eleven weeks after this last convention the first popular vote was taken on Federation in New South Wales, Victoria, South Australia and Tasmania. Though the decision was overwhelmingly in favour of Federation in three of the States, and there was a distinct majority in its favour in New South Wales, the majority was legally insufficient. On 22 January 1899, the Premiers of the six colonies met at Melbourne in a conference initiated by the Right Honourable G.H. Reid, PC, and seven amendments were made to the Bill. This step virtually effected the solution of the few outstanding difficulties which could in any way be regarded as fundamental.

On the occasion of the second popular vote, Queensland also joined in. The general majority in favour of Federation was more than doubled, that for New South Wales itself having been more than quadrupled when compared with the first vote. The following table shows the two results.

VOTES FOR AND AGAINST FEDERATION

Votes		*NSW*	*Vic.*	*SA*	*Tas.*	*Qld*	*Total*
1st Vote	For Federation	71,595	100,520	35,800	11,797	—	219,712
	Against	66,228	22,099	17,320	2,716	—	108,363
	Majority	5,367	78,421	18,480	9,081	—	111,349
2nd Vote	For Federation	107,420	152,653	65,990	13,437	38,488	377,988
	Against	82,741	9,805	17,053	791	30,996	141,386
	Majority	24,679	142,848	48,937	12,646	7,492	236,602

Enactment of the Constitution

The Secretary of State for the Colonies (the Right Honourable Joseph Chamberlain), on 22 December 1899 expressed the hope that a delegation of the federating colonies would visit England on the occasion of the submission of the Commonwealth Bill to the Imperial Parliament. The delegation consisted of Mr (later Sir) Edmund Barton (NSW), Mr Alfred Deakin (Vic.), Mr C.C. Kingston (SA), Sir P.O. Fysh (Tas.), and later Mr S.H. Parker was appointed delegate for Western Australia, and Mr W.P. Reeves for New Zealand. After discussion as to whether there should be some modification in the Bill, it was introduced into the House of Commons on 14 May; the second reading was moved on 21 May; the discussion in committee commenced on 18 June; and the Royal assent was given on 9 July 1900.

On 31 July a referendum in Western Australia on the question of federating gave the result: For, 44,800; against, 19,691; that is a majority of 25,109 in favour of union. On 21 August both Houses of Parliament in that State passed addresses praying that it might be included as an original State of the Commonwealth.

On 17 September 1900, Her Majesty Queen Victoria signed the proclamation declaring that on and after the first day of January 1901, the people of New South Wales, Victoria, South Australia, Queensland, Tasmania and Western Australia should be united in a federal Commonwealth, under the name of the Commonwealth of Australia.

More detail on the federal movement can be found in *Year Book* No. 1.

The Establishment of the Commonwealth of Australia

On 1 January 1901, the designation of 'Colonies'—except in the case of the Northern Territory, to which the designation 'Territory' applied—was changed to that of 'States'.

Transfer of the Northern Territory to the Commonwealth

On 7 December 1907, the Commonwealth and the State of South Australia entered into an agreement for the transfer of the Northern Territory to the Commonwealth, subject to approval by the Parliaments of the Commonwealth and the State. This approval was given by the South Australian Parliament under the *Northern Territory Surrender Act 1907* and by the Commonwealth Parliament under the *Northern Territory Acceptance Act 1910*. The Territory was formally transferred to the Commonwealth on 1 January 1911, and became the Northern Territory of Australia.

Transfer of the Australian Capital Territory to the Commonwealth

On 18 October 1909, the Commonwealth and the State of New South Wales entered into an agreement for the surrender to and acceptance by the Commonwealth of an area of 2,359 square kilometres as the Seat of Government of the Commonwealth. In December 1909, Acts were passed by the Commonwealth and New South Wales Parliaments approving the agreement, and on 5 December 1910 a proclamation was issued vesting the Territory in the Commonwealth on and from 1 January 1911.

By the *Jervis Bay Territory Acceptance Act 1915*, an area of 73 square kilometres at Jervis Bay, surrendered by New South Wales according to an agreement made in 1913, was also accepted by the Commonwealth and was transferred as from 4 September 1915.

Composition of Australia

In 1973, the total area of Australia and of the individual States and Territories was determined by the Division of National Mapping as 7,682,300 square kilometres. Some historical dates and the present areas of the several States and Territories and of Australia are shown in the following table.

AUSTRALIA: COMPONENT STATES AND TERRITORIES

State or Territory	*Year of annexation*	*Year of first permanent settlement*	*Year of formation into separate colony or Territory*	*Year in which responsible government was granted*	*Present area in km^2*
New South Wales	1770	1788	1786	1855	801,600
Victoria	1770	1834	1851	1855	227,600
Queensland	1770	1824	1859	*(a)*1859	1,727,200
South Australia	1788	1836	1834	1856	984,000
Western Australia	1829	1829	1829	1890	2,525,000
Tasmania	1788	1803	1825	1855	67,800
Northern Territory	..	..	*(b)*1863	..	1,346,200
Australian Capital Territory	..	..	*(c)*1911	..	2,400
Australia	..	..	..	*(d)*	**7,682,300**

(a) As Part of New South Wales in 1855; as a separate colony in 1859. *(b)* Previously part of New South Wales; brought under the jurisdiction of South Australia in 1863; transferred to the Commonwealth in 1911. *(c)* Previously part of New South Wales. *(d)* Constituted as from 1 January 1901.

2

GOVERNMENT

Parliamentary Government

Scheme of parliamentary government

Under the Australian Constitution the legislative power of the Commonwealth of Australia is vested in the Parliament of the Commonwealth, which consists of the Queen, the Senate and the House of Representatives. The Queen is represented throughout the Commonwealth by the Governor-General. In each Australian State there is a State Governor, who is the representative of the Queen for the State. The Governor has such powers within the State as are conferred upon him by the Letters Patent constituting his office, and he exercises these powers in accordance with instructions issued to him by the Queen, detailing the manner in which his duties are to be fulfilled.

No Act of the Parliament of the United Kingdom passed after the commencement of the *Australia Act 1986* extends, or is deemed to extend, to the Commonwealth of Australia or to an Australian State or Territory as part of the law of the Commonwealth, of the State or of the Territory. Further, the restrictions that formerly existed on the legislative powers of the Parliaments of the States were removed by the Act.

In the Commonwealth Parliament the Upper House is known as the Senate, and in the bicameral State Parliaments as the Legislative Council. The Legislature in all States was bicameral until 1922 when the Queensland Parliament became unicameral upon the abolition of the Upper House. In the Commonwealth Parliament the Lower House is known as the House of Representatives; in the State Parliaments of New South Wales, Victoria and Western Australia as the Legislative Assembly; and in the State Parliaments of South Australia and Tasmania as the House of Assembly. The single House of Parliament in Queensland is known as the Legislative Assembly. The extent of the legislative powers of each of the seven Parliaments is defined by the Australian and State Constitutions respectively. In those States that have a bicameral legislature, the Legislative Assembly or House of Assembly, as the case may be, is the larger House.

The members of the Parliaments of each State are elected by the people, the franchise extending to Australian citizens who are at least 18 years of age and possess certain residential qualifications. For the Commonwealth Parliament the qualifications for the franchise are identical for both Houses, extending to Australian citizens and British subjects who are on the Commonwealth Electoral Roll and who are not less than 18 years of age.

The Sovereign

On 7 February 1952 the then Governor-General of the Commonwealth of Australia, acting with advice of members of the Federal Executive Council, proclaimed Princess Elizabeth as Queen Elizabeth the Second, Queen of this Realm and of all Her other Realms and Territories, Head of the Commonwealth, Defender of the Faith, Supreme Liege Lady in and over the Commonwealth of Australia. The coronation of Her Majesty took place in Westminster Abbey on 2 June 1953. By the *Royal Style and Titles Act 1973*, which Her Majesty assented to in Canberra on 19 October 1973, the Commonwealth Parliament assented to the adoption by Her Majesty, for use in relation to Australia and its Territories, of the Style and Titles set out in the Schedule to that Act. On the same day, also in Canberra, Her Majesty issued a Proclamation, under the Great Seal of Australia, appointing and declaring that Her Majesty's Style and Titles should henceforth be, in relation to Australia and its Territories, 'Elizabeth the Second, by the Grace of God Queen of Australia and Her other Realms and Territories, Head of the Commonwealth'.

The Governor-General

Powers and functions

Under the Australian Constitution, the Governor-General exercises the executive power of the Commonwealth of Australia, and certain other powers and functions conferred by the Constitution that include, among others, the powers to appoint times for holding the sessions of the Parliament, to prorogue Parliament, and to dissolve the House of Representatives; to cause writs to be issued for general elections of members of the House of Representatives; to assent in the Queens name to a proposed law passed by both Houses of the Parliament; to choose and summon Executive Councillors, who hold office during the Governor-General's pleasure; and to appoint Ministers of State for the Commonwealth of Australia. In addition, the command-in-chief of the Defence Force of the Commonwealth of Australia is vested in the Governor-General as the Queen's representative.

Many Acts of the Commonwealth Parliament provide that the Governor-General may make regulations to give effect to the Acts. The Governor-General may also be authorised by statute to issue proclamations for example, to declare an Act in force. He has been given power by statute to legislate for certain of the Australian Territories. Under the provisions of the Constitution, as well as by the conventions of responsible government in British Commonwealth countries, the Governor-General's executive functions are exercised on the advice of Ministers of State.

The present Governor-General is His Excellency the Honourable William George Hayden AC, who replaced Sir Ninian Martin Stephen, AK, GCMG, GCVO, KBE on 16 February 1989.

Holders of office

Those persons who have held the office of Governor-General from the inception of the Commonwealth of Australia are pictured in *Year Book* No. 71.

Administrators

In addition to the holders of the office of Governor-General, certain persons have, from time to time, been appointed by the Queen to administer the Government of the Commonwealth of Australia. These persons are appointed in the event of the death, incapacity, removal from office or absence from Australia of the Governor-General.

Governors of the States

Powers and functions

The Queen is represented in each of the Australian States by a Governor, the office having been constituted by Letters Patent issued under the Great Seal of the United Kingdom on various dates. The Governors of the States exercise prerogative powers conferred on them by these Letters Patent, their commissions of appointment and the Governor's Instructions given them under the Royal Sign Manual and Signet or other instrument, as specified in the Letters Patent. In addition, they have been invested with various statutory functions by State Constitutions and the Commonwealth *Australia Act 1986*, as well as under the Acts of the Parliaments of the States.

A Governor of a State assents in the Queen's name to Bills passed by the Parliament of the State. Since the enactment of the Australia Act, an Act of Parliament of a State that has been assented to by the Governor of the State is no longer subject to disallowance by the Queen or suspension pending signification of the Queen's pleasure. The Governor administers the prerogative of mercy by the reprieve or pardon of criminal offenders within his jurisdiction, and may remit fines and penalties due to the Crown in right of the State. In the performance of his functions generally, particularly those conferred by statute, the Governor of a State acts on the advice of Ministers of State for the State.

STATE GOVERNORS, HOLDERS OF OFFICE, OCTOBER 1988

New South Wales	His Excellency AIR MARSHAL SIR JAMES ANTHONY ROWLAND, AC, KBE, DFC, AFC
Victoria	His Excellency DR DAVIS McCAUGHEY, AC
Queensland	His Excellency the Honourable SIR WALTER BENJAMIN CAMPBELL, QC
Western Australia	His Excellency PROFESSOR GORDON STANLEY REID, AC
South Australia	His Excellency LT-GEN. SIR DONALD BEAUMONT DUNSTAN, KBE, CB
Tasmania	His Excellency SIR PHILLIP HARVEY BENNETT, KBE, AO, DSO

Commonwealth Government Ministries

The following list shows the name of each Commonwealth Government Ministry to hold office since 1 January 1901 and the limits of its term of office.

COMMONWEALTH GOVERNMENT MINISTRIES, 1901 TO 1988

(i)	BARTON MINISTRY	1 January 1901 to 24 September 1903
(ii)	DEAKIN MINISTRY	24 September 1903 to 27 April 1904
(iii)	WATSON MINISTRY	27 April 1904 to 17 August 1904
(iv)	REID–McLEAN MINISTRY	18 August 1904 to 5 July 1905
(v)	DEAKIN MINISTRY	5 July 1905 to 13 November 1908
(vi)	FISHER MINISTRY	13 November 1908 to 2 June 1909
(vii)	DEAKIN MINISTRY	2 June 1909 to 29 April 1910
(viii)	FISHER MINISTRY	29 April 1910 to 24 June 1913
(ix)	COOK MINISTRY	24 June 1913 to 17 September 1914
(x)	FISHER MINISTRY	17 September 1914 to 27 October 1915
(xi)	HUGHES MINISTRY	27 October 1915 to 14 November 1916
(xii)	HUGHES MINISTRY	14 November 1916 to 17 February 1917
(xiii)	HUGHES MINISTRY	17 February 1917 to 8 January 1918
(xiv)	HUGHES MINISTRY	10 January 1918 to 9 February 1923
(xv)	BRUCE–PAGE MINISTRY	9 February 1923 to 22 October 1929
(xvi)	SCULLIN MINISTRY	22 October 1929 to 6 January 1932
(xvii)	LYONS MINISTRY	6 January 1932 to 7 November 1938
(xviii)	LYONS MINISTRY	7 November 1938 to 7 April 1939
(xix)	PAGE MINISTRY	7 April 1939 to 26 April 1939
(xx)	MENZIES MINISTRY	26 April 1939 to 14 March 1940
(xxi)	MENZIES MINISTRY	14 March 1940 to 28 October 1940
(xxii)	MENZIES MINISTRY	28 October 1940 to 29 August 1941
(xxiii)	FADDEN MINISTRY	29 August 1941 to 7 October 1941
(xxiv)	CURTIN MINISTRY	7 October 1941 to 21 September 1943
(xxv)	CURTIN MINISTRY	21 September 1943 to 6 July 1945
(xxvi)	FORDE MINISTRY	6 July 1945 to 13 July 1945
(xxvii)	CHIFLEY MINISTRY	13 July 1945 to 1 November 1946
(xxviii)	CHIFLEY MINISTRY	1 November 1946 to 19 December 1949
(xxix)	MENZIES MINISTRY	19 December 1949 to 11 May 1951
(xxx)	MENZIES MINISTRY	11 May 1951 to 11 January 1956
(xxxi)	MENZIES MINISTRY	11 January 1956 to 10 December 1958
(xxxii)	MENZIES MINISTRY	10 December 1958 to 18 December 1963
(xxxiii)	MENZIES MINISTRY	18 December 1963 to 26 January 1966
(xxxiv)	HOLT MINISTRY	26 January 1966 to 14 December 1966
(xxxv)	HOLT MINISTRY	14 December 1966 to 19 December 1967
(xxxvi)	McEWEN MINISTRY	19 December 1967 to 10 January 1968

COMMONWEALTH GOVERNMENT MINISTRIES, 1901 TO 1988 — *continued*

(xxxvii)	GORTON MINISTRY	10 January 1968 to 28 February 1968
(xxxviii)	GORTON MINISTRY	28 February 1968 to 12 November 1969
(xxxix)	GORTON MINISTRY	12 November 1969 to 10 March 1971
(xl)	McMAHON MINISTRY	10 March 1971 to 5 December 1972
(xli)	WHITLAM MINISTRY	5 December 1972 to 19 December 1972
(xlii)	WHITLAM MINISTRY	19 December 1972 to 11 November 1975
(xliii)	FRASER MINISTRY	11 November 1975 to 22 December 1975
xliv)	FRASER MINISTRY	22 December 1975 to 20 December 1977
(xlv)	FRASER MINISTRY	20 December 1977 to 3 November 1980
(xlvi)	FRASER MINISTRY	3 November 1980 to 11 March 1983
(xlvii)	HAWKE MINISTRY	11 March 1983 to 1 December 1984
(xlviii)	HAWKE MINISTRY	1 December 1984 to 24 July 1987
(xlix)	HAWKE MINISTRY	24 July 1987

In *Year Book* No. 17, 1924, the names are given of each Ministry up to the Bruce–Page Ministry together with the names of the successive holders of portfolios therein. *Year Book* No. 39 contains a list which covers the period between 9 February 1923, the date on which the Bruce–Page Ministry assumed power, and 31 July 1951, showing the names of all persons who held office in each Ministry during that period. The names of members of subsequent Ministries are listed in issues of the *Year Book* from No. 39 to No. 61 inclusive, and in successive issues from No. 64.

This issue shows particulars of the Third Hawke Ministry (at September 1988).

LEADERS OF THE GOVERNMENT, SEPTEMBER 1988

Commonwealth	THE HON. R.J.L. HAWKE, AC, MP (VIC.) (ALP)
New South Wales	THE HON. N.F. GREINER, MLA (LP)
Victoria	THE HON. J. CAIN, MLA (ALP)
Queensland	THE HON. M.J. AHERN, MLA (NP)
Western Australia	THE HON. P.M. DOWDING, MLA (ALP)
South Australia	THE HON. J.C. BANNON, MP (ALP)
Tasmania	THE HON. R.T. GRAY, MHA (LP)
Northern Territory	THE HON. M. PERRON, MLA (CLP)

COMMONWEALTH GOVERNMENT

Third Hawke Ministry—at October 1988

* **Prime Minister**	**THE HON. R.J.L. HAWKE, AC, MP**
* **Deputy Prime Minister** **Attorney-General** **Minister Assisting the Prime Minister for Commonwealth–State Relations**	**THE HON. L.F. BOWEN, MP**
Minister for Justice	**SENATOR THE HON. M.C. TATE**
Minister for Consumer Affairs Minister Assisting the Treasurer for Prices	**SENATOR THE HON. N. BOLKUS**
* **Leader of the Government in the Senate** **Minister for Industry, Technology and Commerce**	**SENATOR THE HON. J.N. BUTTON**
Minister for Science, Customs and Small Business	**THE HON. B.O. JONES, MP**
* **Deputy Leader of the Government in the Senate** **Minister for Foreign Affairs and Trade**	**SENATOR THE HON. G.J. EVANS, QC**
* Minister for Trade Negotiations Minister Assisting the Minister for Industry, Technology and Commerce Minister Assisting the Minister for Primary Industries and Energy	**THE HON. M.J. DUFFY, MP**

COMMONWEALTH GOVERNMENT

Third Hawke Ministry — at October 1988 — *continued*

* **Treasurer**	**THE HON. P.J. KEATING, MP**
* **Minister for Finance**	**SENATOR THE HON. P.A. WALSH**
* **Minister for Transport and Communications**	**THE HON. R. WILLIS, MP**
Minister for Telecommunications and Aviation Support	**THE HON. G.F. PUNCH, MP**
Minister for Land Transport and Shipping Support	**THE HON. R.J. BROWN, MP**
* **Minister for Employment, Education and Training**	**THE HON. J.S. DAWKINS, MP**
Minister for Employment and Education Services	**THE HON. P. DUNCAN, MP**
Minister for Aboriginal Affairs	**THE HON. G.L. HAND, MP**
* **Minister for Defence** Vice-President of the Executive Council Leader of the House	**THE HON. K.C. BEAZLEY, MP**
Minister for Defence Science and Personnel	**THE HON. R.J. KELLY, MP**
* **Minister for Primary Industries and Energy**	**THE HON. J.C. KERIN, MP**
Minister for Resources	**SENATOR THE HON. P.F.S. COOK**
* **Minister for Social Security** Minister Assisting the Prime Minister for Social Justice	**THE HON. B.L. HOWE, MP**
* **Minister for Administrative Services**	**THE HON. S.J. WEST, MP**
* **Minister for Community Services and Health**	**THE HON. N. BLEWETT, MP**
Minister for Housing and Aged Care	**THE HON. P.R. STAPLES, MP**
Minister for Veterans' Affairs	**THE HON. B.C. HUMPHREYS, MP**
* **Minister for the Arts, Sport, the Environment, Tourism and Territories**	**SENATOR THE HON. G.F. RICHARDSON**
Minister for the Arts and Territories Minister Assisting the Prime Minister Minister Assisting the Minister for Immigration, Local Government and Ethnic Affairs	**THE HON. A.C. HOLDING, MP**
* **Minister for Industrial Relations** Minister Assisting the Prime Minister for Public Service Matters Minister Assisting the Treasurer	**THE HON. P.F. MORRIS, MP**
* **Minister for Immigration, Local Government and Ethnic Affairs** Minister Assisting the Prime Minister for Multicultural Affairs Manager of Government Business in the Senate	**SENATOR THE HON. R.F. RAY**
Minister for Local Government Minister Assisting the Prime Minister for the Status of Women	**SENATOR THE HON. M. REYNOLDS**

NOTE: * Minister in the Cabinet

The Leader of the Opposition plays an important part in the Party system of government which operates in the Australian Parliaments. The following list gives the names of the holders of this position in each of the Parliaments as at October 1988.

LEADERS OF THE OPPOSITION, OCTOBER 1988

Commonwealth	THE HON. J.W. HOWARD, MP (LP)
New South Wales	R.J. CARR, MLA (ALP)
Victoria	THE HON. J.G. KENNETT, MLA (LP)
Queensland	W.K. GOSS, MLA (ALP)
Western Australia	THE HON B.J. MACKINNON, MLA (LP)
South Australia	J.W. OLSEN, MP (LP)
Tasmania	THE HON. N.L.C. BATT, MHA (ALP)
Northern Territory	T.E. SMITH, MLA (ALP)

Numbers and salaries of Commonwealth Government Ministers

Under sections 65 and 66, respectively, of the Australian Constitution the number of Ministers of State was not to exceed seven, and the annual sum payable for their salaries was not to exceed £12,000, each provision to operate, however, 'until the Parliament otherwise provides'.

Subsequently, the number and salaries have increased from time to time, and as at 1 October 1988 the number of Ministers was 30 and ministerial salaries ranged from $24,063 for a Minister other than the Prime Minister, Deputy Prime Minister, Treasurer or Leader of the Government in the Senate to $53,207 for the Prime Minister. An additional ministerial allowance of $26,403 a year is payable to the Prime Minister, $15,571 a year to the Deputy Prime Minister, $13,202 a year to the Treasurer, the Leader of the House and the Leader of the Government in the Senate, and $10,832 a year to other Ministers.

All amounts shown in the foregoing paragraphs are in addition to amounts payable as Parliamentary salaries and allowances.

Parliaments and Elections

The Commonwealth Parliaments

The first Parliament of the Commonwealth of Australia was convened by proclamation dated 29 April 1901 by His Excellency the Marquis of Linlithgow, then Earl of Hopetoun, Governor-General. It was opened on 9 May 1901 by HRH the Duke of Cornwall and York. The Rt Hon. Sir Edmund Barton, GCMG, KC, was Prime Minister.

The following table shows the number and duration of Parliaments since Federation.

COMMONWEALTH PARLIAMENTS

Number of Parliament	*Date of opening*	*Date of dissolution*
First	9 May 1901	23 November 1903
Second	2 March 1904	5 November 1906
Third	20 February 1907	19 February 1910
Fourth	1 July 1910	23 April 1913
Fifth	9 July 1913	30 July 1914 *(a)*
Sixth	8 October 1914	26 March 1917
Seventh	14 June 1917	3 November 1919
Eighth	26 February 1920	6 November 1922
Ninth	28 February 1923	3 October 1925
Tenth	13 January 1926	9 October 1928
Eleventh	6 February 1929	16 September 1929
Twelfth	20 November 1929	27 November 1931
Thirteenth	17 February 1932	7 August 1934
Fourteenth	23 October 1934	21 September 1937
Fifteenth	30 November 1937	27 August 1940
Sixteenth	20 November 1940	7 July 1943
Seventeenth	23 September 1943	16 August 1946
Eighteenth	6 November 1946	31 October 1949
Nineteenth	22 February 1950	19 March 1951 *(a)*
Twentieth	12 June 1951	21 April 1954
Twenty-first	4 August 1954	4 November 1955
Twenty-second	15 February 1956	14 October 1958
Twenty-third	17 February 1959	2 November 1961
Twenty-fourth	20 February 1962	1 November 1963
Twenty-fifth	25 February 1964	31 October 1966
Twenty-sixth	21 February 1967	29 September 1969
Twenty-seventh	25 November 1969	2 November 1972
Twenty-eighth	27 February 1973	11 April 1974 *(a)*
Twenty-ninth	9 July 1974	11 November 1975 *(a)*
Thirtieth	17 February 1976	8 November 1977
Thirty-first	21 February 1978	19 September 1980
Thirty-second	25 November 1980	4 February 1983 *(a)*
Thirty-third	21 April 1983	26 October 1984
Thirty-fourth	21 February 1985	5 June 1987 *(a)*
Thirty-fifth	14 September 1987	—

(a) A dissolution of both the Senate and the House of Representatives was granted by the Governor-General under section 57 of the Constitution.

The thirty-fourth Parliament ended on 5 June 1987 when both houses were dissolved. Writs were issued by the Governor-General on 5 June 1987 for elections in all States and Territories. The election was announced for 11 July 1987. The thirty-fifth Parliament opened on 14 September 1987.

Qualifications for membership and for franchise—Commonwealth Parliament

Any Australian citizen, 18 years of age or over and who is, or is qualified to become, an elector of the Commonwealth Parliament is qualified for membership of either house of the Commonwealth Parliament. Any Australian citizen (or British subject who was on the Commonwealth Roll as at 25 January 1984) over 18 years of age is qualified to enrol and vote at federal elections. Residence in a subdivision for a period of one month before enrolment is necessary to enable a qualified person to enrol. Enrolment and voting are compulsory for all eligible persons.

The principal reasons for disqualification of persons otherwise eligible for election as members of either Commonwealth House are: membership of the other House; allegiance to a foreign power; being attainted of treason; being convicted and under sentence for any offence punishable by imprisonment for one year or longer; being an undischarged bankrupt or insolvent; holding an office of profit under the Crown (with certain exceptions); or having a pecuniary interest in any agreement with the public service of the Commonwealth except as a member of an incorporated company of more than 25 persons. Persons convicted of treason and not pardoned, or convicted and under sentence for any offence punishable by imprisonment for five years or longer, or of unsound mind, or persons who are holders of temporary entry permits under the *Migration Act 1958* or are prohibited non-citizens under that Act, are excluded from enrolment and voting.

Commonwealth Parliaments and elections

From the establishment of the Commonwealth of Australia until 1949 the Senate consisted of 36 members, 6 being returned by each of the original federating States. The Australian Constitution empowers the Commonwealth Parliament to increase or decrease the size of the Parliament, and, as the population of Australia had more than doubled since its inception, the Parliament passed the *Representation Act 1948* which provided that there should be 10 Senators from each State instead of 6, thus increasing the total to 60 Senators, enlarging both Houses of Parliament and providing a representation ratio nearer to the proportion which existed at Federation. The *Representation Act 1983* further provided for 12 Senators for each State from the first meeting of the thirty-fourth Parliament.

The *Senate (Representation of Territories) Act 1973* made provision for two Senators to be elected from both the Northern Territory and the Australian Capital Territory. Elections for the Territory Senators are held at the same time as general elections for the House of Representatives.

In accordance with the Constitution, the total number of State Members of the House of Representatives must be as nearly as practicable twice the total number of State Senators. Consequent upon the increase in the size of the Senate in 1949, the number of State Members was increased from 74 to 121. In 1955 there were 122 State Members; in 1969, 123; in 1974, 124; in 1977, 121; in 1980, 122. From the first meeting of the thirty-fourth Parliament, there was a further increase of 23 to 145 State Members flowing from the increase in the number of State Senators to 72.

Redistribution of the States into electoral divisions has taken place in 1949, 1955, 1968, 1974 (Western Australia only), 1977, 1979 (Western Australia only), 1984, and 1988 (Victoria and Western Australia only). The quota (or average number) of electors is the basis for electoral distribution. The Redistribution Committee may vary the enrolment of electorates by up to 10 per cent in order to achieve equality in enrolment midway between redistributions and to take account of economic, social and regional interests, means of communication and travel, the trend of population changes, physical features and area, and existing boundaries of electoral divisions.

The Electoral Commissioner determines the representation entitlements of the States during the twelfth month of the life of each Parliament. Determinations are based on the latest population statistics as provided by the Australian Statistician. Should the representation entitlement of a State change, a redistribution is mandatory. The representation entitlements of the States at the three most recent determinations are shown in the following table.

REPRESENTATION ENTITLEMENTS OF THE STATES

State	*1981*	*1984*	*1988*
New South Wales	43	51	51
Victoria	33	39	38
Queensland	19	24	24
South Australia	11	13	13
Western Australia	11	13	14
Tasmania	5	5	5
Total	**122**	**145**	**145**

From 1922 to 1968 the Northern Territory was represented in a limited capacity by one member in the House of Representatives. In May 1968 the *Northern Territory Representation Act 1922* was amended to give full voting rights to the Member for the Northern Territory effective from 15 May 1968, the day on which the Act received Royal assent.

From 1948 to 1967 the Australian Capital Territory was represented in a limited capacity by one member in the House of Representatives, The Member for the Australian Capital Territory was granted full voting rights on 21 February 1967.

Following the passing of the *Australian Capital Territory Representation (House of Representatives) Act 1973* the Australian Capital Territory was divided into two electoral divisions.

Members of the House of Representatives are elected for the duration of the Parliament, which is limited to three years. At elections for Senators the whole State constitutes the electorate. For the purpose of elections for the House of Representatives the State is divided into single electorates corresponding in number to the number of members to which the State is entitled.

In 1948, amendments to the *Commonwealth Electoral Act 1918* changed the system of scrutiny and counting of votes in Senate elections from the alternative vote to that of proportional representation. The method of voting for both the Senate and the House of Representatives is preferential.

Particulars of voting at Senate elections and elections for the House of Representatives up to 1984 appear in earlier issues of the *Year Book*. Additional information is available in the *Election Statistics* issued by the Electoral Commissioner following each election and printed as Parliamentary Papers.

The numbers of electors and of primary votes cast for the major political parties in each State and Territory at the latest election for each House of the Commonwealth Parliament were as follows:

COMMONWEALTH PARLIAMENT ELECTIONS, 11 JULY 1987

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Australia*
				HOUSE OF REPRESENTATIVES					
Electors enrolled	3,555,060	2,698,034	1,707,161	942,880	906,677	300,763	79,921	162,717	10,353,213
Number of votes recorded for—									
Australian Labor Party	1,439,098	1,139,361	683,639	366,985	377,575	118,077	26,794	79,791	4,231,320
Liberal Party	1,059,597	922,474	319,607	350,224	332,305	140,217	..	44,806	3,169,230
National Party	374,466	154,073	438,625	30,933	54,873	..	9,826	..	1,062,796
Country Liberal Party	..	..	..	..	..	..	20,551	..	20,551
Australian Democrats	201,924	163,088	74,215	64,163	27,302	16,371	..	10,124	557,187
Unite Australia Party	1,837	5,427	..	7,327	..	..	..	..	14,591
Others	108,077	42,268	4,402	4,197	3,113	..	..	13,267	175,324
Formal votes	3,184,999	2,426,691	1,520,488	823,829	795,168	274,665	57,171	147,988	9,230,999
Informal votes	152,724	133,774	53,613	60,378	55,778	14,297	3,488	5,328	479,380
Total votes recorded	**3,337,723**	**2,560,465**	**1,574,101**	**884,207**	**850,946**	**288,962**	**60,659**	**153,316**	**9,710,379**

COMMONWEALTH PARLIAMENT ELECTIONS, 11 JULY 1987 — *continued*

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Australia*
SENATE									
Electors enrolled	3,555,060	2,698,034	1,707,161	942,880	906,677	300,763	79,921	162,717	10,353,213
Number of votes recorded for—									
Australian Labor Party	1,355,792	1,086,513	643,094	354,747	354,328	113,638	30,872	74,876	4,013,860
Liberal Party	..	878,899	275,085	328,039	324,028	108,039	..	51,090	1,965,180
National Party	..	140,143	439,618	29,954	45,787	..	8,892	..	664,394
Liberal–National Party	1,289,888	..	..	..	..	..	..	..	1,289,888
Country Liberal Party	..	..	..	..	..	..	19,970	..	19,970
Australian Democrats	290,049	211,043	115,456	95,831	47,534	18,841	..	15,353	794,107
Unite Australia Party	5,458	11,213	1,638	4,775	1,620	..	..	..	24,704
Nuclear Disarmament Party	48,998	28,352	17,411	..	..	..	..	..	94,761
Vallentine Peace Group	..	..	..	..	40,048	..	..	..	40,048
Brian Harradine Group	..	..	..	..	..	37,037	..	..	37,037
Others	206,289	113,443	38,058	43,696	14,338	1,305	1,783	8,819	427,731
Formal votes	3,196,474	2,469,606	1,530,360	857,042	827,683	278,860	61,517	150,138	9,371,680
Informal votes	164,542	102,382	49,609	33,514	28,284	11,119	2,374	3,608	395,432
Total votes recorded	**3,361,016**	**2,571,988**	**1,579,969**	**890,556**	**855,967**	**289,979**	**63,891**	**153,746**	**9,767,112**

The state of the parties in each House at the commencement of the thirty-fifth Parliament was: *Senate*—Australian Labor Party 32; Liberal Party of Australia 27; National Party of Australia 6; Australian Democrats 7; Country Liberal Party 1; Brian Harradine Group 1; Vallentine Peace Group 1; Nuclear Disarmament Party 1; *House of Representatives*—Australian Labor Party 86; Liberal Party of Australia 43; National Party of Australia 19.

Referendums

In accordance with section 128 of the Constitution, any proposed law for the alteration of the Constitution, in addition to being passed by an absolute majority of each House of Parliament, must be submitted to a referendum of the electors in each State and Territory and must be approved by a majority of the electors in a majority of the States and by a majority of all the voters who voted before it can be presented for Royal assent.

Since 1901, 42 proposals have been submitted to referendums and the consent of the electors has been received in 8 cases: the first in relation to the election of Senators in 1906, the second and third in respect of State Debts—one in 1910 and the other in 1928, the fourth in respect of Social Services in 1946 and the fifth in respect of Aboriginals in 1967. The remaining three proposals in relation respectively to Senate casual vacancies, maximum retirement age for justices of the High Court and judges of other Federal Courts, and the right of electors in the Territories to vote in referendums for the alteration of the Constitution, were approved in May 1977. In addition to referendums for alterations of the Constitution, other Commonwealth referendums have been held—2 prior to Federation regarding the proposed Constitution and 2 regarding military service during the 1914–1918 War. A National song poll was held on 21 May 1977. Voting was preferential and after the distribution of preferences *Advance Australia Fair* became the National song of Australia.

For further details of referendums *see Year Book* No. 52, pages 66–68, *Year Book* No. 60, pages 90–91, *Year Book* No. 62, pages 72–73 and *Year Book* No. 70, pages 55–56.

The Parliaments of the States

This section contains summarised information; for greater detail refer to State *Year Books*.

STATE OF THE PARTIES IN COMMONWEALTH AND STATE PARLIAMENTS
OCTOBER 1988

Commonwealth			
House of Representatives—		*Senate—*	
ALP	85	ALP	32
LP	45	LP	27
NPA	18	AD	7
		NPA	7
		IND	3
New South Wales*(a)*			
Legislative Assembly—		*Legislative Council—*	
ALP	42	ALP	21
LP	39	LP	12
NPA	20	NPA	7
IND	6	IND	3
		AD	2
Victoria			
Legislative Assembly—		*Legislative Council—*	
ALP	46	ALP	18
LP	33	LP	19
NPA	9	NPA	6
		IND	1
Queensland			
Legislative Assembly—			
NPA	48		
ALP	30		
LP	10		
IND	1		
South Australia			
House of Assembly—		*Legislative Council—*	
ALP	27	ALP	10
LP	16	LP	10
NPA	1	AD	2
IND	3		
Western Australia			
Legislative Assembly—		*Legislative Council—*	
ALP	32	ALP	16
LP	19	LP	14
NPA	6	NPA	4
Tasmania			
House of Assembly—		*Legislative Council—*	
LP	19	ALP	1
ALP	14	IND	18
IND	2		
Northern Territory			
Legislative Assembly—			
CLP	15		
ALP	6		
IND	2		
NTNP	2		

(a) Legislative Assembly excludes two vacant Electoral Districts.

NOTE: Explanation of abbreviations:
AD—Australian Democrats; ALP—Australian Labor Party; CLP—Country-Liberal Party; IND—Independent; LP—Liberal Party; NDP—Nuclear Disarmament Party; NPA—National Party of Australia; NTNP—Northern Territory National Party.

Outlay on Parliamentary Government

The accompanying table shows, in broad groups, the expenditure incurred in the operation of the parliamentary system in Australia, comprising the Governor-General and Governors, the Ministries, the Upper and Lower Houses of Parliament, and electoral activities; *it does not attempt to cover the expenditure on Commonwealth and State administration generally.* Only broad groups are shown, but even these are not entirely comparable because of differences in accounting procedures and in the presentation of accounts. Expenditure under the head of Governor-General or Governor includes salaries of Government House staff and maintenance of residences, official establishments, grounds, etc., and expenditure on capital works and services.

OUTLAY ON PARLIAMENTARY GOVERNMENT, 1986–87
($'000)

Expenditure group	*Cwlth*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Total*
Governor-General *(a)*	4,389	1,013	1,902	1,131	917	1,388	957	903	12,600
Ministry *(b)*	8,886	2,310	2,420	3,598	1,187	1,467	1,222	5,639	26,729
Parliament—									
Upper House *(c)*	9,834	2,818	3,736	..	1,879	3,914	1,016	..	23,197
Lower House *(c)*	10,854	5,549	7,499	4,291	3,787	5,699	1,430	2,358	41,467
Both Houses *(d)*	80,163	27,010	16,325	9,697	6,470	9,108	4,119	3,390	156,283
Miscellaneous *(e)*	34,468	2,207	2,123	3,031	3,473	1,322	462	..	47,086
Total, Parliament	*135,319*	*37,584*	*29,683*	*17,019*	*15,607*	*20,042*	*7,027*	*5,748*	*268,031*
Electoral *(f)*	35,258	2,395	1,251	5,440	961	1,496	406	658	47,866
Royal Commissions	579	2,173	92	13	159	..	23	365	3,404
Total	**184,430**	**45,475**	**35,348**	**27,201**	**18,832**	**24,393**	**9,634**	**13,314**	**358,628**

(a) Salaries and other expenses, including maintenance of house and grounds. *(b)* Salaries, travelling and other expenses as ministers and including Official Establishments. *(c)* Allowances to members (including ministers' salaries as members), travelling and other expenses. *(d)* Government contribution to members' superannuation funds, printing, reporting staff, library, etc. *(e)* Services, furniture, stores, etc. *(f)* Salaries, cost of elections, etc.

OUTLAY ON PARLIAMENTARY GOVERNMENT
($'000)

Year	*Cwlth(a)*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT(b)*	*Total*
1981–82	103,276	27,508	27,610	23,738	10,829	12,916	8,046	2,948	216,872
1982–83	132,307	29,431	28,544	20,654	13,254	15,301	6,445	4,074	250,011
1983–84	137,308	38,041	28,381	21,272	13,721	16,722	6,648	5,926	268,019
1984–85	190,019	38,060	38,761	22,202	14,894	19,033	7,410	9,574	339,953
1985–86	177,066	40,748	34,722	23,224	19,747	22,338	11,891	12,095	341,831
1986–87	184,430	45,475	35,348	27,201	18,832	24,393	9,634	13,314	358,628

(a) Includes appropriations for the construction of the new Commonwealth Parliament House. *(b)* From 1981–82 more detailed information has been obtained which has allowed a more accurate calculation of the cost of parliamentary government in the Northern Territory. Figures for earlier years on the revised basis are not available.

Acts of the Commonwealth Parliaments

In the Commonwealth Parliament all laws are enacted in the name of the Sovereign, the Senate, and the House of Representatives. The subjects with respect to which the Commonwealth Parliament is empowered to make laws are enumerated in the Australian Constitution. In all States, other than South Australia and Tasmania, laws are enacted in the name of the Sovereign by and with the consent of the Legislative Council (except in Queensland) and Legislative Assembly. In South Australia and Tasmania laws are enacted in the name of the Governor of the State, with the advice and consent of the Parliament in the case of South Australia, and of the Legislative Council and House of Assembly in the case of Tasmania. Generally, assent to Bills passed by the Legislatures is given by the Governor-General or State Governor acting on behalf of, and in the name of, the Sovereign. In certain special cases Bills are reserved for the Royal assent. The Parliaments of the States are empowered generally, subject to the Australian Constitution, to make laws in and for their respective States in all cases whatsoever. The power of the States to make laws was enhanced in 1986 by the enactment by the Commonwealth Parliament of the *Australia Act 1986* and the accompanying *Australia (Request and Consent) Act 1986*. Subject to certain limitations they may alter, repeal, or vary their Constitutions. Where a law of a State is inconsistent with a law of the Commonwealth Parliament, the latter law prevails and the former law is, to the extent of the inconsistency, invalid.

The enactment of Commonwealth Parliament legislation

The legislation passed by the Commonwealth Parliament between 1901 and 1973, and which was then still in operation, was published in a consolidated form entitled *Acts of the Parliament 1901–1973*. Since 1974, annual volumes of Acts have also been published. The consolidation contains a chronological table of Acts passed from 1901 to 1973, showing how they are affected by subsequent legislation or lapse of time, together with a table of legislation of the Commonwealth Parliament passed between 1901 and 1973 in relation to the several provisions of the Australian Constitution. Reference should be made to these for complete information.

In 1987 the number of enactments of the Commonwealth Parliament was 184.

National Anthem and Colours of Australia

Details of the official proclamation issued on 19 April 1984 are as follows:

His Excellency, the Governor-General of the Commonwealth of Australia, issued the following Proclamation on 19 April 1984:

> I, SIR NINIAN MARTIN STEPHEN, Governor-General of the Commonwealth of Australia, acting with the advice of the Federal Executive Council, hereby declare:
>
> (a) that the anthem 'God Save The Queen' shall henceforth be known as the Royal Anthem and be used in the presence of Her Majesty The Queen or a member of the Royal Family;
>
> (b) that the National Anthem shall consist of the tune known as 'Advance Australia Fair' with the following words:
>
> *Australians all let us rejoice,*
> *For we are young and free,*
> *We've golden soil and wealth for toil;*
> *Our home is girt by sea;*
> *Our land abounds in nature's gifts*
> *Of beauty rich and rare,*
> *In history's page, let every stage*
> *Advance Australia Fair.*
> *In joyful strains then let us sing,*
> *Advance Australia Fair.*
>
> *Beneath our radiant Southern Cross*
> *We'll toil with hearts and hands;*
> *To make this Commonwealth of ours*
> *Renowned of all the lands;*
> *For those who've come across the seas*
> *We've boundless plains to share;*
> *With courage let us all combine*

To Advance Australia Fair.
In joyful strains then let us sing,
Advance Australia Fair.

(c) that the Vice-Regal Salute to be used in the presence of His Excellency The Governor-General shall consist of the first four bars and the last four bars of the tune known as 'Advance Australia Fair';

(d) that the National Anthem shall be used on all official and ceremonial occasions, other than occasions on which either the Royal Anthem or the Vice-Regal Salute is used; and

(e) that green and gold (Pantone Matching System numbers 116C and 348C as used for printing on paper) shall be the national colours of Australia for use on all occasions on which such colours are customarily used.

THE AUSTRALIAN FLAG

(This special article has been contributed by the former Department of the Special Minister of State)

Until Federation, the Australian colonies used the flags of Great Britain for official purposes—the Union Flag (popularly called the Union Jack) and the three Ensigns of the United Kingdom; i.e. the Red Ensign, the Blue Ensign and the White Ensign.

However, in 1900 the Colonial Office in London invited the attention of the Governor-General Designate to the necessity of a Commonwealth flag to enable the new Australian nation to comply with the provisions of legislation governing colonial naval forces and mercantile marine.

Competition for the National Flag

In 1900 the Melbourne journal the *Evening Herald* held a competition with a prize of £25 for the best design for a Federal Australian Flag, and eventually a prize design was selected. This design bears no resemblance to our present National Flag, and actually was of stars and stripes on the pattern of the United States Flag.

Not to be outdone, another Melbourne journal the *Review of Reviews* in their issue of 20 November 1900 gave details of a competition for a design for a Federal Flag, offering £50 for the winning design. This journal stated that the previous competition was purely local, but that its competition would be open to the whole of Australia and overseas countries. However, in April 1901 the Commonwealth Government in a *Gazette* dated 29 April 1901 announced details of an official competition.

The prize money for the Commonwealth Government competition was fixed at £200 for the winning design. This amount included £75 from the *Review of Reviews* journal, £50 from a tobacco company, and the balance of £75 from the Government of Australia. It was agreed that all designs previously entered in the *Evening Herald* competition would be included in the new 'national' competition which was also made world-wide and advertised in many forms in overseas countries.

The Commonwealth Government appointed seven judges, specially selected, representing the Army, Navy, Merchant Marine and Pilot Services and an expert in design, art and heraldry. A total of 32,823 designs were submitted to the judges, and the Prime Minister, the Honourable Edmund Barton, announced that the prize money for the winning designs was to be equally divided between five persons whose designs were more or less similar.

The first National Flag, made to the order of the Commonwealth Government and embodying features of the winning designs, flew above the Exhibition Building in Melbourne on 3 September 1901 when the competition results were announced.

Use of Australian flags

For many years there was considerable misunderstanding in Australia and in other countries in regard to the use of the Australian flags, particularly the Australian Blue Ensign. This was due in the main to the lack of any statutory law governing the flying of national flags in Australia, although endeavours had been made from time to time to lay down some definite procedure for the use of Australian ensigns.

For some time the Australian Blue Ensign was regarded as an official flag for flying at Commonwealth establishments only. The Merchant Flag was often flown privately on land. However, on 15 March 1941 the Prime Minister, Mr Menzies, issued the following press statement:

> The Official view is that there should be no unneccessary restriction placed on the flying of the Blue Ensign on shore. Its use on public buildings, by schools, and by the public generally would not only be permitted but appreciated, provided it is flown in a manner appropriate to the use of a national emblem. Australian merchant vessels will, of course, continue to fly the Commonwealth Red Ensign.

Further support for the more general use of the Australian Blue Ensign was given by the Prime Minister, Mr Chifley, on 24 February 1947 when he issued a statement encouraging the flying of the flag.

Adoption of the Australian National Flag

In 1950, after an interdepartmental committee recommendation, Cabinet approved that the Australian Blue Ensign be adopted as the Australian National Flag. His Majesty King George VI gave formal approval in 1951.

In 1953 the Flags Act was passed in the Commonwealth Parliament, formally establishing the Australian National Flag and the Australian Red Ensign. Thus the nomenclature of Australian flags and ensigns was changed and the Australian Blue Ensign became the Australian National Flag and the Australian Merchant Flag became the Australian Red Ensign.

Her Majesty the Queen's personal flag for Australia

On 20 September 1962 Her Majesty gave her approval for the design of a personal flag for her use in Australia. It consists of a banner of the Commonwealth Arms in the proportion thirty-one by twenty-two, with a large gold seven-pointed star over all in the centre, charged with Her Majesty's initial 'E' in gold, ensigned with the Royal Crown within a chaplet of gold roses on a blue roundel. Her Majesty's personal flag for Australia is used in the same manner as the Royal Standard in the United Kingdom and denotes Her Majesty's presence.

Governor-General's flag

In Commonwealth of Australia *Gazette* No. 56 of 16 July 1936 it was notified that the Governor-General had adopted a personal flag for use in Australia. The flag, which is in the proportion of two to one has a royal blue background on which is the Royal Crest in gold (on a St Edward's Crown a lion statant guardant also crowned) with the words 'Commonwealth of Australia' in dark blue letters on a gold scroll below the Crest. The Governor-General's flag is flown continuously whenever His Excellency is in residence. It is also flown on vehicles in which the Governor-General is travelling.

Flags of the armed services

It was not until 1967 that the Royal Australian Navy was given a specifically Australian ensign. Since 1910 Royal Australian Navy ships had flown the White Ensign of the Royal Navy. On 16 February 1967 the Governor-General Lord Casey signed a Proclamation proclaiming the Australian White Ensign as the ensign for the Royal Australian Navy. This was published in Commonwealth of Australia *Gazette* No. 18 of 1 March 1967.

The Australian Army uses the National Flag and has no individual flag or ensign of its own.

In 1948 the Royal Australian Air Force applied to His Majesty King George VI for an ensign, based on the Royal Air Force ensign but differenced by the addition of the Southern Cross and the Commonwealth Star in the same positions as on the Australian Blue Ensign. His Majesty's Royal Warrant for the adoption of this ensign by the RAAF was given in 1949. In 1981 Her Majesty Queen Elizabeth II approved an amendment to the Royal Air Force Ensign which added the stylised red kangaroo to the centre of the Air Force roundel as depicted on aircraft of the RAAF.

Use and flying of the National Flag

The Australian National Flag should be displayed only in a manner befitting the national emblem; it should not be subjected to indignity or displayed in a position inferior to any other flag or ensign. The Flag normally takes precedence over all other national flags when flown in Australia. It should always be flown aloft and free. When the Australian National Flag is raised or lowered, or when it is carried past in a parade or review, all present should face the flag, men should remove their hats and all should remain silent. Those in uniform should salute.

It is improper to use the Australian National Flag in any of the following ways:

- as a covering of a statue, monument or plaque for an unveilling ceremony (a plain cover should be used);
- as a table or seat cover;
- by allowing it to fall onto or lie upon the ground;
- as a masking for boxes, barriers or intervening space between floor and ground level on a dais or platform.

The National Flag and representations of it should always be shown, represented or used in a dignified manner. It should not be defaced by way of printing or illustrations or masked by other objects, and all symbolic parts of the Flag should be identifiable.

On days of national commemoration the Australian National Flag may be flown on any flagstaffs on public buildings. Special days of national significance are notified as they arise.

Flags are flown at the half-mast position as a sign of mourning. The Flag is brought to the half-mast position by first raising it to the top of the mast and then immediately lowering it slowly to the half-mast position. The Flag should be raised again to the peak before being lowered for the day. The position of the Flag when flying at half-mast will depend on the size of the Flag and the length of the flagstaff. It is essential that it be lowered at least to a position recognisably 'half-mast' so as to avoid the appearance of a flag which has accidentally fallen away from the top of the mast owing to a loose flag rope. A satisfactory position for half-masting would normally be when the top of the Flag is one-third of the distance down from the top of the mast.

3

INTERNATIONAL RELATIONS

The basic principles underlying the shaping and conduct of Australia's foreign policy are that Australia is a significant middle-level power with democratic institutions; having strong affiliations with other Western countries but an emerging Asia-Pacific identity through its increasing regional involvement.

Australia's prosperity is largely dependent on trade; it is geographically remote from its founding nation and principal migration source countries and from some of its major markets and its main allies; it is a relatively affluent and resource rich country in a populous, developing and rapidly changing region.

Initially, Britain and the Commonwealth countries were a central element of Australia's foreign policy and activity. Later, as a consequence of the pre-eminence of the United States in the west and the Pacific during and following World War II, close relations were developed with that country.

While these links, and links with Europe, remain important factors in Australian foreign policy in terms of cultural tradition, security, strategic interests and trade, the specific focus of policy has shifted in the past 25 years to the Asia-Pacific region.

Australia is located in a region which includes the politically, economically and strategically significant countries of East Asia, South Asia, the Indian Ocean and many newly independent nations of the South Pacific. Awareness of the importance of these neighbouring states has led successive Australian Governments to seek to promote and maintain friendly and cooperative relations with them, not only to ensure the stability and security of the region, but also to develop mutually profitable trade, investment, exchange of technology, and cooperation in the development process. Australia gives special attention to its relations with China, Japan, ASEAN (the Association of South East Asian Nations) and its members, New Zealand, Papua New Guinea and the other South Pacific states.

Australia has also been concerned at the increasing instability in the world strategic environment, particularly at the urgency of the need for effective arms control and a reduction in East—West tensions, and also as manifested in South Asia, Indo-China, the Middle East and Africa. Australian foreign policy is committed to an independent constructive approach to those central issues within the framework of the Western alliance.

International issues including economic cooperation, disarmament, trade access, human rights, refugees, and new concepts of national interest have assumed importance together with an increasing recognition of the growing interdependence of the world community. This is reflected in economic issues, disarmament and arms control and human rights becoming priorities in Australia's foreign policy. Australia recognises the importance and growing complexity of economic issues, particularly the need to maintain the recovery of world trade and economic development and the major problem of world debt affecting both developed and developing countries. The growing interdependence of national economic and foreign policies and the increasing vulnerability of Australia's economy to international trade and other developments will remain at the heart of Australia's foreign policy concerns for some time to come. Australia places a high priority on its participation in the resolution of these global issues in the United Nations and other multilateral forums, including the Commonwealth.

The United Nations

Successive Australian Governments have reaffirmed their support for the United Nations (UN), its Charter and the work being done in the various specialised agencies. Within the United Nations and other organisations, Australia seeks to work toward the solution of the pressing problems confronting humanity today.

Australia is involved in a wide range of United Nations' matters and has served on many United Nations' bodies. It was a member of the Security Council in 1945–46, 1956–57, 1973–74 and in 1985–86. The Security Council has primary responsibility for the maintenance of international peace and security. In 1975, a long period of Australian membership of the Trusteeship Council came to an end with the independence of Papua New Guinea. Australia was a long-standing member of the Special Committee on Decolonisation until its withdrawal in January 1985 following UN recognition of the Cocos (Keeling) Islands' decision to integrate with Australia. Australia remains a member of the UN Council for Namibia.

Australia supports the work of the specialised agencies and subsidiary bodies in such areas as development assistance, drug control and human rights. It is an active participant in the economic work of the United Nations, through such forums as the UN Conference on Trade and Development (UNCTAD), the Food and Agriculture Organisation (FAO), the World Food Program (WFP), and the UN Development Program (UNDP). Australia also takes an active part in regional consideration of social and economic issues in the Economic and Social Commission for Asia and the Pacific (ESCAP), the United Nations' regional body. Australia is a member of the Commission on the Status of Women. It was re-elected for a further four year term on the Commission on Narcotic Drugs in June 1985. It is on the Executive Board of the UN Children's Emergency Fund (UNICEF), the Governing Council of the UN Environment Program (UNEP) and is a long-standing member of the Governing Body of the International Labour Organisation. Australia is an active member of the UN Education, Scientific and Cultural Organisation (UNESCO) and its prominent role in world refugee assistance is reflected in membership of the Executive Committee of the UN High Commissioner for Refugees.

Australia has made a significant contribution to UN peacekeeping activities since these began. Australia has also contributed its assessed share of the costs of all UN operations, and makes voluntary contributions as well as providing personnel and equipment for peacekeeping forces. At present Australia provides personnel for the UN Forces in Cyprus, the UN Truce Supervision Organisation, and the UN Iran/Iraq Military Observer Group.

Australia is fully involved in the work of the UN on disarmament and outer space, and is a member of the main subsidiary bodies working in these areas. Though no longer a member of the UN Commission on Human Rights, Australia continues to play an active role at Commission Sessions, and fully participates in the work of other UN bodies dealing with the implementation of International human rights conventions.

Australia accepts the compulsory jurisdiction of the International Court of Justice and plays an active role in bodies concerned with the development of international law.

The Commonwealth

The Commonwealth is a distinctive and unique framework which brings together about a quarter of the world's population in 48 countries. Australia, through its participation in the broad range of Commonwealth activities, seeks to foster the Commonwealth as an instrument for peace and understanding, and for political, social and economic advancement. The last Commonwealth Heads of Government Meeting (CHOGM) was held in Vancouver, Canada in October 1987. The next CHOGM is scheduled for October 1989 in Kuala Lumpur, Malaysia.

South–East Asia

Australia maintains wide-ranging relations with the countries of ASEAN (Indonesia, Malaysia, the Philippines, Thailand, Singapore and Brunei), both bilaterally and as a group. These relationships include political, commercial, cultural, defence and wide-ranging personal contacts. There is extensive contact at the senior political level with regular Ministerial visits in both directions. Australia's contribution to the ASEAN organisation underpins its bilateral relations with its member countries. Australia has now committed over $100 million since 1974 to the ASEAN—Australia Economic Cooperation Program which includes a diversity of projects. In 1986 the program was reviewed to give more focus and more relevance to shared Australian and regional interests.

Australia maintained its regular contact with ASEAN at the level of Foreign Minister at the annual ASEAN Ministerial Meeting-Post Ministerial Conference, which the Australian Minister for Foreign Affairs and Trade attended in Bangkok in July 1988.

Indonesia is Australia's closest regional neighbour and straddles major sea and air routes. Australia is committed to the maintenance of sound and productive relations with Indonesia at all levels. Accordingly, Australia has pursued an active relationship with Indonesia including in the areas of trade, investment, science, defence and culture. Australian aid to Indonesia is expected to continue at levels of around $70 million per year.

Efforts are currently underway to explore areas which offer further possibilities for constructive bilateral cooperation, including cooperation on international economic issues where interests coincide. The development of a more substantial trade and commercial relationship also remains a high priority.

Australia and Thailand share a range of political, strategic and economic interests, founded on Australia's regional foreign policy interests covering both the South–East Asian region and Indo-China. Cooperation on continuation of trade matters through the Cairns Group is an important new aspect of the relationship. Australia's relationship with Thailand is given added substance through development assistance activities, defence cooperation, growing trade links, tourism and cooperation in narcotics control. Thailand's impressive progress towards industrialisation and its success in international markets, indicate that it will become more important to Australia as a trading and investment partner.

Malaysia and Australia have a long history of close and constructive relations, covering the full range of political, commercial and social links. This relationship has adapted well to the political and economic changes within the region, including Malaysia's emergence as a dynamic economic power. The individual components of the bilateral relationship cover a broad spectrum, notably education, trade and investment, defence and civil aviation.

Australia has a tradition of close interest in and association with Singapore. Current relations are dominated by the economic and political success of the Republic and the prospect of considerable opportunities for the promotion of Australia's interests. Relations are broadly based, encompassing the whole range of bilateral areas including trade and investment, defence, education, civil aviation, tourism and cultural relations. The major investment links that Australia and Singapore share have contributed to the frequency of exchanges between political leaders and officials of the two countries.

The Philippines is important to Australia because of its strategic location and close cooperation on a range of matters of mutual unrest. Australia has a substantial development assistance program with the Philippines, and there are important linkages through trade, migration, tourism and defence cooperation.

Relations between Brunie and Australia are developing steadily, especially in the fields of trade, defence and education cooperation.

Australia has developed a strong relationship with Burma. Australia's development assistance program is the central feature of the relationship, with $11.7 million allocated in 1987-88.

Australia is concerned by the destabilising effects on the South–East Asian region posed by the situation in Cambodia. Australia's policy has been to promote dialogue between the major parties in order to reach a peaceful and durable settlement.

Australia is also developing a more mature and comprehensive relationship with Vietnam in the fields of cultural exchanges, trade and aid through multilateral and non-government channels but Vietnam's continued military presence in Cambodia is a limiting factor. Australia is also continuing to develop its relationship with Laos and is providing a small program of development assistance.

North Asia

Japan remains Australia's largest trading partner, with annual total trade in excess of $18 billion. Reciprocal visits over the past year by Prime Ministers Hawke and Takeshita underlined the strength of the bilateral relationship, and gave impetus to our dialogue on global and regional issues. Australia welcomed a new bilateral beef access agreement with Japan, which is expected to result in strong growth in our beef exports, and encouraged further leadership by Japan on international trade issues.

Australia attaches high priority to its relations with China. Two-way trade exceeds $2 billion per annum and there are exchange and cooperation programs in a wide range of areas, from culture to industrial technology. Such programs are facilitated by frequent political consultations, including a regular exchange of high-level visits. In 1988, visits to China were made by the Governor-General, and the Minister for Foreign Affairs and Trade; Premier Li Peng will visit Australia in November. The Australia–China Council also contributes to the development of the bilateral relationship through its active sponsorship of a variety of activities designed to strengthen and broaden the foundation of the bilateral relationship. In 1981, Australia became the first country to have a development assistance program with China. In 1988 conditions for Australian investors in China have been enhanced by the signing of Investment Protection Agreement.

Australia's relationship with the Republic of Korea (ROK) is strongly trade oriented, with Korea now Australia's fifth largest export market. Mr Hayden's visit in April reflected both our desire to broaden the overall bilateral relationship, and the increasing importance of ROK to Australia as that country's regional economic and political influence grows.

South Pacific

Australia is a member of the South Pacific Forum, the Forum Secretariat (formerly SPEC—the South Pacific Bureau for Economic Cooperation), the Forum Fisheries Agency (FFA), the South Pacific Commission (SPC) and the Committee for Coordination of Joint Prospecting for Mineral Resources in South Pacific Offshore Areas (CCOP/SOPAC). Australia actively participates in meetings of these organisations and provides significant financial support to them and to other regional and international programs providing assistance to the South Pacific region. To assist in the preservation and development of indigenous Pacific cultures, Australia has established the South Pacific Cultures Fund. Australia and New Zealand have entered into a non-reciprocal preferential trade agreement in favour of South Pacific Forum States; the South Pacific Regional Trade and Economic Co-operation Agreement (SPARTECA). Australia participated in the 19th South Pacific Forum held in Nuku'Alofa, Tonga, in September 1988 and in the 28th South Pacific Conference held in October 1988 in Rarotonga, Cook Islands. Australia is a party to the South Pacific Nuclear Free Zone Treaty (the Treaty of Rarotonga) and has signed the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (SPREP).

Relations between Australia and New Zealand reflect their shared history, similarities in political and social structure and the importance of the economic links. While Australia disagrees with New Zealand's policy on ANZUS, particularly on the question of port and air access, other aspects of the relationship have continued to expand. This has been exemplified in the 1988 Review of the Closer Economic Relations Trade Agreement (ANZCERTA) which provides for the accelerated movement towards a single trans-Tasman market through achieving free trade in goods by mid 1990, the extension of CER into trade in services and increased harmonisation of the commercial environment. The encouragement of political and cultural exchanges through the Australia New Zealand Foundation reflects another dimension in the close relationship. Australia and New Zealand also often work closely in their approaches to the international political and economic environment.

As the largest of the South Pacific Island States, Papua New Guinea (PNG) has played an influential and leading role in the region since independence in 1975. Australia and PNG have a close and warm relationship which encompasses a broad range of government and non-government activities. Papua New Guinea is the major recipient of Australian aid. One of the most significant changes in the bilateral relationship occurred in December 1987, with the signing by Prime Ministers of the Joint Declaration of Principles (JDP) guiding relations between the two countries. The JDP aims at changing the bilateral relationship from the post-colonial phase to one of reciprocity and recognition of mutual benefits. In working towards these aims both governments are seeking to ensure that each element of the relationship whether defence cooperation, trade, investment or development cooperation is seen as integral to the relationship as a whole. Within the JDP framework, a Ministerial Forum is held; the first took place at Wewak, 31 October–1 November 1988. A new development cooperation treaty is being negotiated.

The Americas

Australia has a long-standing relationship with the United States which extends across the whole range of national life. Government-to-government relations are one part of a larger and more extensive interaction between the two societies with interlinked culture and language. Relations between the countries are warm and cooperative, with a high degree of official consultation and a close personal relationship between the leaders. The affinity is underpinned by substantial economic and commercial relations. Australia's defence links with the United States under ANZUS serve the vital interests of both countries by contributing to regional security and the maintenance of global balance essential to world peace.

Canada is a country comparable with Australia in terms of institutions and traditions, geographical size, and international outlook. This has allowed a close degree of cooperation and interchange of ideas between the two countries. Developments in the Caribbean and the Latin American region are of increasing importance to Australia.

Europe

Australia seeks to maintain warm and friendly relations with the countries of Western Europe, with the European Community and its institutions, including the European Parliament.

Bilateral relations with individual Western European countries continue to be of considerable importance. These relations are promoted by the very close cultural and historical links with these countries, and are reinforced by similar approaches to international issues and a shared commitment to democratic values and human rights. Economic ties between Australia and the major Western European economies are likely to be significantly strengthened with the increase of European investment in Australia and the increase in the export of Australian energy resources to Europe.

The European Community (EC) is an important trading partner and a major source of investment funds and technological expertise, as well as a significant importer of Australian raw materials. This natural complementary relationship has however been tempered by tensions caused by trading difficulties in the agricultural sector. Australia nonetheless remains committed to the strengthening of a positive relationship with the EC on the principle of enlightened self-interest.

Following the Government's decision in May 1983 to normalise relations with the USSR, activities have been restored or initiated across a broad range, contributing to the objective of a pragmatic and constructive relationship. Progress has been made in broadening our trade relations with the USSR. In conjunction with a visit by the Prime Minister to Moscow in December 1987, four new bilateral agreements, covering trade, various fields of science, and sport, were signed.

Eastern Europe is a sensitive area in world affairs and Australia has an interest in improvements in of East–West relations. Eastern Europe has significant potential for Australian exports, particularly commodity exports, although there have been chronic debt problems emerging in some Eastern European countries in recent years. The presence in Australia of large ethnic groups, many of which have family in Eastern Europe, has raised the question of freedom of emigration from those countries.

Australia now has diplomatic relations with all countries of Eastern Europe, following the accreditation of the Australian Ambassador in Belgrade to Albania in September 1984.

The Middle East

Australia has substantial trading interests in the area and long-standing friendly relations with the Arab nations, Iran and Israel. Australia supports efforts to bring about negotiations of differences in the region, e.g. in such areas of conflict as the Arab–Israeli dispute, the problems facing Lebanon and the Iran–Iraq war. Australia supported the Camp David accords and the peace treaty between Israel and Egypt, seeing them as a first step towards a just, lasting and comprehensive settlement of the Arab–Israeli dispute. Australia supports all efforts to negotiate the dispute, and believes a settlement should be based on UN Security Council Resolution 242 (which, inter alia, recognises the right of all States in the area to live in peace within secure and recognised boundaries and calls on Israel to withdraw from territories captured in 1967) and on recognition of the central importance of the Palestinian issue, including the right of self-determination for the Palestinian people and, if they so choose, the right to independence and the possibility of their own independent State. The Government recognises, however that any such arrangement will depend on decisions involving people of the immediate region. Australia has maintained a strict policy of neutrality in the Iran–Iraq war, and welcomes the achievement (under UN auspices) of a ceasefire between Iran and Iraq. Australia has responded positively to a request from the United Nations to contribute to the United Nations Iran—Iraq Military Observer Group. Fifteen Australian officers have been assigned to the group and will serve in Iran.

Africa

Australia maintains a broad range of contacts with independent black African States, and is closely concerned with developmental and humanitarian issues affecting Africa. Its strong and continuing opposition to racial discrimination and the apartheid system is reflected by its adherence to the Commonwealth statement on Apartheid in Sport (the Gleneagles Declaration), its adoption of all measures against South Africa agreed by Commonwealth Heads of Government at Nassau (1985) and London (1986) and its active role in encouraging peaceful change in South Africa, most recently through the Commonwealth Eminent Persons Group. Australia is ready to join concerted international efforts to bring further pressure to bear on the South African Government to abolish apartheid, which it regards as an inhuman practice and the root cause of confrontation and violence in southern Africa. Australia maintains correct but cool diplomatic relations with South Africa. Australia also supports international action to bring Namibia to independence by the negotiated settlement in accordance with United Nations Security Council Resolution 435.

Australian aid to Africa is focussed on Eastern and Southern Africa. This includes assistance given through the Southern African Development Coordination Conference as well as humanitarian assistance for refugees from apartheid in South Africa and Namibia. Food aid constitutes the dominant share of Australian aid to Africa because of growing food deficits and the continuing famine crisis in Ethiopia and Mozambique.

Indian Ocean

On 17 January 1984, the Minister for Foreign Affairs, Mr Hayden, announced that the Government had approved guidelines for a comprehensive and integrated policy approach to Indian Ocean issues. Under the guidelines Australia will: act in accordance with its status as an independent but aligned Indian Ocean Littoral State; continue to play an active role in the United Nations Ad Hoc Committee on the Indian Ocean; maintain the goal of the resumption of United States–USSR talks on arms limitations in the region; and support other arms limitations initiatives where these accord with Australia's assessment of its own interests and those of the region as a whole. Australia will also seek to give greater attention to the development of relations with Indian Ocean island States, and, to a lesser extent, East African States. Australia maintains a modest aid program to the smaller Indian Ocean countries.

ANZUS

Following a review in 1983 of the ANZUS Treaty by the Australian Government, including a re-examination with its ANZUS partners at the 1983 ANZUS Council Meeting in Washington, the Government reaffirmed the alliance as fundamental to Australia's national security and foreign and defence policies. The text of the ANZUS Treaty of 1952 can be found in Treaty Series No. 2, for 1952, printed by the then Department of External Affairs. In early 1985, the New Zealand Government implemented a policy not to permit the entry to New Zealand of nuclear powered warships or of warships (or aircraft) which might carry nuclear weapons. Consequently the United States, at the Australia–United States ministerial talks in August 1986, formally suspended its security obligations to New Zealand under the ANZUS Treaty pending adequate corrective measures. Both the United States and Australia agreed that the relationship between the United States and Australia under the ANZUS Treaty and the rights and obligations assumed by the United States and Australia towards each other under the Treaty would remain constant and undiminished. ANZUS continues to govern the bilateral defence relationship between Australia and the United States, and that between Australia and New Zealand.

Nuclear issues

Australia's strong commitment to effective disarmament and arms control is reflected in Australian support for the international non-proliferation regime. Australia ratified the Nuclear Non-Proliferation Treaty (NPT) in 1973 and encourages universal adherence to it. Australia is also a member of the International Atomic Energy Agency (IAEA) and, as a member of the IAEA, supports endeavours to strengthen the IAEA's international safeguards system. Australia plays an active role in IAEA committees and in other international bodies dealing with the clarification of multilaterally agreed guidelines on export controls for non-proliferation purposes.

Australia also took an active part in the development of two new important international nuclear safety conventions under IAEA auspices in 1986; the Convention on Early Notification of a Nuclear Accident (CENNA) and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (CACNARE). Australia has signed both conventions, and is taking steps to ratify.

The stringent nuclear safeguards conditions applied to exports and subsequent use of Australian uranium are set out as binding international legal obligations in the bilateral nuclear safeguards agreements which customer countries must enter into before any uranium exports from Australia are permitted. These conditions include an undertaking not to use Australian origin nuclear material for any military or explosive purpose, and the acceptance of IAEA safeguards in order to verify that undertaking. Australia has concluded eleven bilateral nuclear safeguards agreements covering nineteen countries.

Australia is also a member of the Nuclear Energy Agency (NEA) of the Organisation for Economic Co-operation and Development (OECD). Australia values the NEA as an essentially technical forum for international consultation on nuclear issues.

Disarmament and arms control

Australia is energetically promoting arms control and disarmament objectives at the United Nations and the Conference on Disarmament in Geneva. Australia attaches particular priority to the earliest possible conclusion of a treaty banning all nuclear testing by all States in all environments for all time (a Comprehensive Test Ban) and is working to uphold and strengthen the Nuclear Non-Proliferation Treaty. Although not a party to any negotiations on reductions of nuclear weapons between the United States and the USSR, Australia continues to encourage genuine dialogue and a readiness to find accommodation with the aim of stable mutual deterrence. It has called for early agreement on arms reductions and related outer space issues in the current Geneva negotiations. Australia seeks a balanced, mutual and verifiable freeze on the production, testing and deployment of nuclear weapons, which would be followed by deep reductions in nuclear weapons stockpiles. Australia was at the forefront of efforts within the Pacific region which resulted in the endorsement and opening for signature of a South Pacific Nuclear Free Zone Treaty during the meeting of the South Pacific Forum in Rarotonga, Cook Islands in August 1985. Australia also accords priority to a number of non-nuclear disarmament questions. It is committed to supporting the conclusion of a fully effective and verifiable chemical warfare convention that would outlaw the use of chemicals as weapons. Australia will be active in efforts aimed at strengthening the 1972 Biological Weapons Convention by improving its verification provisions. Australia is concerned at the implications for strategic stability of the research into ballistic missile defences being conducted by both superpowers and is pressing for international agreements to prevent an arms race in outer space. Australia has acceded to the following disarmament and arms control agreements: the Partial Test Ban Treaty, the Geneva Protocol (on the Prohibition of the Use in War of Asphyxiating Poisonous or Other Gases and of Bacteriological Weapons), the Outer Space Treaty, the Sea-Bed Arms Control Treaty, the Nuclear Non-Proliferation Treaty, the Biological Weapons Convention, the Environmental Modification Convention, the Antarctic Treaty, and the Inhumane Weapons Convention. Australia was the first signatory to the South Pacific Nuclear Free Zone Treaty on 6 August (Hiroshima Day) 1985.

Trade relations

Economic factors have assumed primary importance in international relations. This is largely due to the growing economic interdependence between nations and the need for global cooperation to solve the problems facing domestic economies.

Australia's interest in international economic developments derives from the overall importance of trade to Australia and its historical reliance upon a substantial amount of capital inflow to offset balance of payments deficits on the current account.

The economic recession of the world economy in the 1970s and early 1980s led to the growth world-wide of protectionist pressures and moves towards seeking solutions to economic problems through bilateralism and the formation of trade blocs. The Australian Government has endeavoured to counter trends towards increased protectionism and to encourage freer trade through its active participation in forums such as the General Agreement on Tariffs and Trade (GATT). GATT is the principal multilateral institution for negotiation of reduction in trade barriers in pursuit of the further liberalisation of world trade. Australia has consistently supported a reduction in barriers to trade and the concept of an open and multilateral trading system, and is playing an active role in the Uruguay Round of Multilateral Trade Negotiations.

In particular, Australia initiated the formation of the 14 member Cairns Group of Fair Traders in Agriculture, which has established itself as an effective proponent of reform in international agricultural trade.

Australia also has a strong commitment to the freedom of international capital flows. Because it is a net capital importer, it is of considerable importance to Australia that the international system be increasingly open and adaptable to facilitate the global exchange of goods, services, labour and capital. This is all the more so in view of the significant challenges imposed on the international monetary system by the dramatic changes in the world economy during the past decade.

Because of its characteristics and location, Australia is vitally dependent on its aviation, shipping and communication links with the rest of the world. Civil aviation has assumed particular prominence in Australia's relations with a large number of countries. Australia's international airline, Qantas, has a well-established network linking Australia with Asia, Oceania, North America, Europe and Africa. Shipping is also of major importance and the maintenance of Australia's interests in the shipping and aviation fields requires a conducive atmosphere in both bilateral and multilateral negotiations.

Australia attaches great importance to its traditional relations with other developed countries, which continue to be Australia's principal trading partners. Membership of the OECD has enabled Australia to take part in consultations on a wide range of policy issues and on issues of international concern with countries experiencing similar social and economic circumstances. At the 1987 Ministerial Council Meeting, Australia was active in persuading member countries to accept the need for urgent agricultural reform. Macro-economic and structural policy outcomes, combined with trade and agricultural commitments made at the meeting gave a positive impetus to these issues at the Venice Summit in June 1987. The OECD meeting outcome also helped maintain the momentum in the Uruguay Round process. The Organisation's work on relations with developing countries is also relevant to Australian interests.

Law of the Sea

Australia participated in all sessions of the Law of the Sea Conference, the largest and potentially the most important conference in the history of the United Nations, involving major strategic, economic, transport, scientific and environmental issues. The UN Convention on the Law of the Sea opened for signature on 10 December 1982 and Australia signed that day.

It had attracted 158 other signatures by the time it closed for signature two years later. The Convention will enter into force twelve months after it receives 60 ratifications or accessions. The text includes articles on the system of exploration and exploitation of the deep seabed beyond the limits of national jurisdiction; extension of the territorial sea to 12 nautical miles; establishment of coastal state sovereign rights in the living and non-living resources of an 'exclusive economic zone' of 200 nautical miles; recognition of coastal state sovereign rights over the exploration and exploitation of the natural resources of the continental shelf, defined in terms of the natural prolongation of the land-mass; protection and preservation of the marine environment; marine scientific research; and the settlement of disputes. Rights of freedom of navigation and passage through straits and archipelagos, which are important to trading nations such as Australia, are also recognised. A preparatory commission for the establishment of the International Seabed Authority and its various organs has been meeting biannually since 1983. Australia has been an active participant in its work.

Antarctica

Australia has had a long association with Antarctica commencing with early expeditions and continuing with an active scientific program. Antarctica's importance to Australia derives from its geographical proximity, the history of Australia involvement there and Australian administration of the Australian Antarctic Territory. Australia maintains three permanent bases in the Territory; at Casey, Davis and Mawson (as well as one on Macquarie Island).

As one of the twelve original signatories, Australia attaches particular significance to the 1959 Antarctic Treaty, which serves important Australian scientific, environmental and security interests. Australia hosted the first Antarctic Treaty Consultative Meeting in Canberra in 1961. Such meetings are held about every two years in one of the Consultative Party States, and in 1983 Australia was host to the twelfth meeting. There are now twenty Antarctic Treaty Consultative Parties.

In 1980, at a conference in Canberra, a Convention for the Conservation of Antarctic Marine Living Resources was concluded. Annual meetings of the Commission and the Scientific Committee established by the Convention have been held at the Commission's headquarters in Hobart since 1982. The Commission is the first international organisation to be established in Australia. Australia also participated in a series of special consultative meetings which negotiated the Convention on the Regulation of Antarctic Mineral Resource Activities. While a convention was considered on 2 June 1988 no decision has yet been made on Australian signature.

Treaties

The texts of bilateral and multilateral treaties to which Australia becomes a party are printed in the Australian Treaty Series when they enter into force. The Australian Treaty List is published as Treaty Series 1971, No. 1.

Australia's current position with regard to individual treaties may be ascertained by referring to the 1971 list in conjunction with Cumulative Supplement No. 5 (Treaty Series 1986, No. 34), annual volumes on treaty action in the Treaty Series, and annual volumes on International Treaties and Conventions to which Australia has not yet become a party, in the series 'Select Documents on International Affairs'. These publications are available from Commonwealth Government Bookshops in State capital cities.

Cultural relations

The Department of Foreign Affairs and Trade administers a program of cultural relations overseas known as the Australia Abroad Program. This program supports Australian foreign policy and economic objectives through cultural activities and exchanges. These include tours overseas of all types of performing and visual arts, promotion of Australian literature and literary studies, promotion of general Australian studies, cultural assistance, visitor exchange, book gifts, and sporting gifts and exchanges. Formal priorities have been established for the program, with major emphasis on South-East Asia, the South Pacific, North and East Asia, South Asia and Indian Ocean countries. There are also continuing programs in the United States of America and in the USSR.

The Department collaborates closely with other departments, institutions and agencies in the development of the Australia Abroad Program. The Department seeks to build up programs which will increase understanding and comprehension overseas of Australian society and culture, and thus help foster a favourable environment for the promotion of foreign policy goals. At the same time it seeks to promote professional opportunities for Australian practitioners in all cultural and sporting fields.

In early 1988 the secretariats of the Australia China Council, the Australia Japan Foundation and the Australia New Zealand Foundation were integrated into a reformed Branch entitled Australia Abroad Cultural Relations Branch. The Branch also established a new section to launch cultural relations activities in South-East Asia and the Pacific.

Australian Foreign Aid Program 1988–89

The objective of the Australian Aid program is to promote the economic and social advancement of the peoples of developing countries in response to Australia's humanitarian concerns. It also promotes Australia's foreign policy and commercial interests. To maximise development impact the program is a mix of activities targeted on assisting the poor and promoting economic growth in developing countries. Contributing to growth with equity is a key challenge facing Australia in delivering an effective aid program.

Australia is concerned that developing countries advance in orderly and stable ways and that harmonious relations are established with developing countries particularly in our neighbourhood. By assisting developing countries to grow, Australia's aid also promotes its long-term economic interests in terms of increased trade opportunities. There are also significant direct commercial opportunities for the Australian private sector in the aid program through procurement opportunities.

In 1988–89 Australia will provide about $1,093 million as development assistance, a 7.3 per cent increase in nominal terms and a 1.2 per cent increase in real terms on last financial year.

Of this, $718 million will be provided through Country Programs. These Programs are designed to promote development in recipient countries by assisting governments and regional organisations to plan and implement programs and activities designed to improve economic and social conditions.

Some $306 million has been allocated to Global Programs to promote coordinated Australian and international efforts to assist development in Third World countries. The Programs also promote the understanding of aid and development issues in the Australian community and help alleviate the suffering of refugees and victims of disaster.

Country Programs

The Australian Government currently provides aid directly to a total of over 90 countries. However, in line with Australia's geopolitical and economic interests, emphasis is placed on providing support to nearby countries in the South Pacific and South East Asia regions.

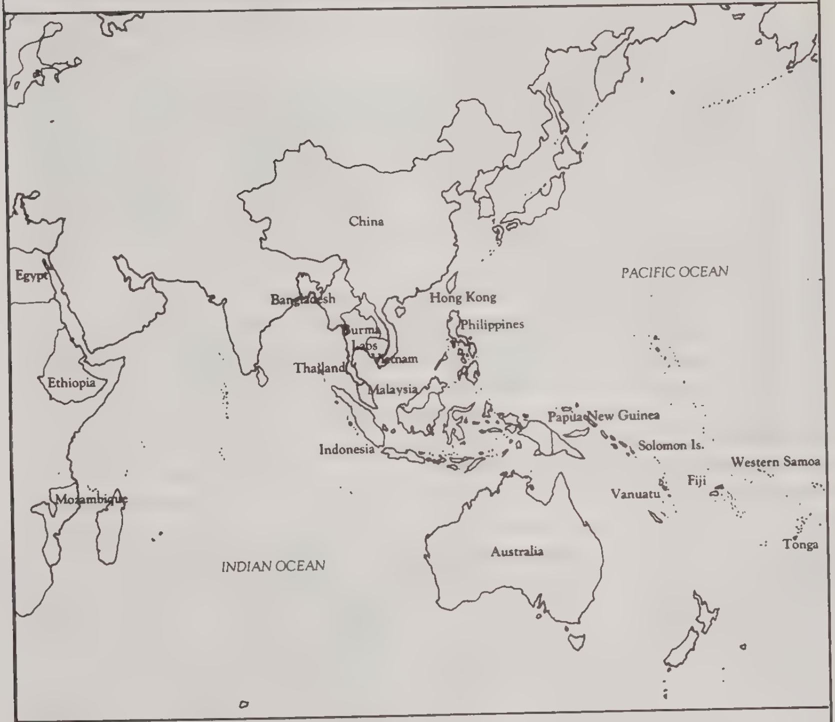
The planning and delivery of most aid to countries other than Papua New Guinea, is now programmed on a country basis. Country Programs draw together all the instruments of aid delivery available to a particular country. In consultation with recipients, a strategy is formulated to identify areas of focus and a program of activities is developed accordingly. The aim is to provide forms of aid that best match recipient countries' needs with Australia's comparative advantage.

In financial terms the three most important forms of aid are project aid, education and training, and food aid.

Projects supported by Australia range from large-scale, long-term, integrated regional development programs to small-scale village level projects. Most projects involve assistance to develop the recipient's physical capital (e.g. road construction in Burma), and the provision of technical cooperation to enhance local expertise (e.g. forestry assistance in Nepal and curriculum development in Solomon Islands).

Australia's education and training program is designed to assist recipient countries to develop the human skills needed for their economic and social advancement. Recipient governments are encouraged to identify education requirements and staffing needs which relate to their national development priorities in areas where Australia can offer relevant expertise and which complement other Australian aid activities. The majority of education and training activities occur within Australia, either at colleges and universities, or at AIDAB's Centre for Pacific Development and Training (ACPAC) though some assistance

Total Australian Aid Flows to Major Recipients 1987—88 ($m)


China
PACIFIC OCEAN
Egypt
Bangladesh
Hong Kong
Philippines
Burma
Laos
Vietnam
Thailand
Ethiopia
Malaysia
Papua New Guinea
Solomon Is.
Indonesia
Western Samoa
Fiji
Vanuatu
Mozambique
Tonga
Australia
INDIAN OCEAN

1.	Papua New Guinea	306.3	11.	Solomon Islands	11.8
2.	Indonesia	83.5	12.	Burma	11.6
3.	Malaysia	53.7	13.	Vanuatu	11.1
4.	China	33.8	14.	Mozambique	10.5
5.	Philippines	27.4	15.	Tonga	10.1
6.	Thailand	25.4	16.	Western Samoa	9.8
7.	Fiji	18.4	17.	Hong Kong	9.5
8.	Ethiopia	18.3	18.	Indo-China Regional	9.1
9.	Bangladesh	14.0	19.	Vietnam	9.0
10.	Egypt	14.0	20.	Laos	6.9

Used with the permission of the Australian International Development Assistance Bureau (AIDAB) is provided in developing countries themselves. In 1988–89 the estimate of contributions towards the education of developing country students is $80 million.

Australia is one of the world's largest providers of food assistance to developing countries. Four-fifths of Australia's food aid is provided to assist in the achievement of long term development goals. About half of developmental food aid is provided on a direct government-to-government basis when it is assessed as the most effective way to fill a particular need in a recipient country and as complementing the other forms of assistance being provided. The remaining developmental food aid is channelled through the World Food Programme (WFP), a UN organisation, for use in association with projects to develop rural facilities and to alleviate poverty among rural people. Australia also provides about one-fifth of its food aid for emergency relief and refugee programs. In 1988–89, Australia will provide approximately $42 million through Country Programs, $44 million through WFP and $21 million of emergency aid.

Papua New Guinea and South Pacific

Papua New Guinea (PNG) continues to be Australia's largest aid recipient with an allocation of $303 million in 1988–89, about 28 per cent of the Australian aid program. Most of this assistance will be provided as a grant to the PNG Budget. The Australian and PNG Governments have agreed that the overall level of Australian aid should reduce progressively and that there should be a gradual shift from budget support to assistance for individual activities.

The Australian aid program in the South Pacific will in 1988–89 assist Fiji, Solomon Islands Western Samoa, Vanuatu, Tonga, Kiribati, Tuvalu, Cook Islands and Niue.

Aid to Fiji which had been suspended as a result of the military coups of 1987 was resumed in early 1988 following firm assurances from the Fijian Government that Australian aid equipment and materials would not be diverted from intended developmental purposes. In addition to a $12 million regular program of assistance which concentrates on a number of projects and activities of direct benefit to the entire Fiji community, the Australian Government announced a $10 million program of special economic assistance in 1987–88. The components of this program have not yet been devised and in its implementation the Australian Government will take account of political, constitutional, economic and social developments in Fiji, including human rights, as well as Fiji Government priorities.

Australia will in 1988–89 introduce a new rolling three year program for the South Pacific to assist planning for both Australia and recipients by providing a degree of financial predictibility. Each recipient will be advised annually of the level of aid proposed for the next financial year and also on the national levels for following years (emergency and other non-programmable aid will be additional). Australia also supports the regional organisations active in the Pacific. In addition assistance is given through the multi-country program where activities are viable when organised regionally. The major focus of the multi-country activities in 1988–89 will be on health. In 1988–89 Australia will allocate to the South Pacific (excluding PNG) $85 million, a 20 per cent increase over the amount provided in the previous year.

South–East Asia

Australia provides a broad range of forms of assistance to the region, including project aid, training assistance for students, joint-financing and technical assistance supporting over 60 projects in South-East Asia. A total of $136 million has been allocated in 1988–89 for the region.

Indonesia, with an allocation of $46 million, is the largest recipient of project aid. Other major recipients of bilateral aid under the South-East Asia program are the Philippines ($26 million), Thailand ($20 million), Burma ($12 million) and Laos ($6 million).

Support is also provided for regional organisations and programs, e.g. the ASEAN–Australia Economic Co-operation Program (AAECP) and the Economic and Social Commission for Asia and the Pacific (ESCAP).

Other regions

Australian assistance to other regions of the world is concentrated on specific economic and social sectors in which Australia has particular expertise. Aid to these countries through Country Programs will total $106 million in 1988–89. Of this $22 million has been allocated to China where the aim of Australia's aid program is, while emphasising developmental goals, to assist China's modernisation in a way which is consistent with greater commercial benefit to Australia.

The Government announced in January 1988 that aid to Southern Africa over the three-year period 1987–88 to 1989–90 would increase from $55 million to $100 million. Recipients are the nine member states of SADCC, the Southern Africa Development Coordination Conference (Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe), and the SADCC organisation itself. The major focus of the program is the promotion of food security through assistance to agriculture, transport and communications. The increase will also enable an expansion of the Special Assistance Program for South Africans and Namibians (SAPSAN).

Other regions benefitting from Australian aid in 1988–89 are the Indian Ocean island States ($9 million), South Asia ($20 million), North Africa/Middle East ($12 million) and other sub-Saharan African ($7 million). Food aid is a major component of all these programs.

International organisations and programs

As a responsible member of the international aid community, Australia accepts its obligations to support a range of key international financial and development institutions. These organisations can provide aid on a scale and in sectors beyond the capacity of a single donor. Australia's active participation in these agencies enables it to have a policy influence on each institution's activities, and to utilize their expertise in formulating Australia's own aid strategies and programs. It also allows Australia to provide assistance in areas which are outside its sphere of technical expertise, comparative advantage or access.

In 1988–89 Australia will make voluntary contributions to international organisations of about $178 million. They will include about $66 million to a number of key development agencies of the UN system such as UNDP, UNICEF, and WFP. International financial institutions such as the World Bank and the Asian Development Bank have been allocated $101 million. Commonwealth programs and a number of specialist international non-government agencies, and development and research institutions will also be supported in their development activities.

Emergencies and refugees

Australia provides assistance in cash and kind for refugees and victims of emergencies and natural disasters in developing countries to help alleviate suffering, as well as to promote equitable and longer term solutions to refugee problems. The channelling of the emergency aid is through a variety of agencies depending on the location and nature of each emergency. In 1988–89, $44.9 million will be provided for Australian responses to emergency, disaster and refugee situations. Assistance may include food aid, temporary shelter materials, medical supplies and accountable cash grants. Australia also supports the general programs of a number of organisations by making contributions to their core budgets. These include the UN High Commissioner for Refugees (UNHCR), the UN Relief and Works Agency (UNRWA) and the International Committee of the Red Cross (ICRC). Australia also provides assistance for disaster preparedness and mitigation measures.

Community and commercial programs

The Australian public has consistently demonstrated its concern about poverty in the developing world. The Government provides funds to subsidise the development projects and relief activities of non-government organisations. These agencies provide development and emergency aid from funds raised directly in the community, on a much larger scale than the subsidies they receive from the Government. They undertake a range of development projects, development education and volunteer programs. A total of $13 million has been allocated to voluntary agencies in 1988–89.

The direct participation of the academic and research community in the aid program is also encouraged and $26 million has been allocated to these activities.

In line with the stated government policy, the promotion of Australia's political/strategic and commercial interests respectively are among the primary objectives of the aid program. AIDAB promotes Australian commercial interests within this policy framework through business liaison activities.

Australia's mixed credit scheme, the Development Import Finance Facility (DIFF), provides opportunities for Australian business to supply developmentally important goods and services. Mixed credits combine grant aid funds with commercial export credits to provide 'soft finance'.

Consular services and passports

The Department is responsible to the Minister for Foreign Affairs and Trade for the protection and welfare of Australian citizens and their interests overseas. Consular services to the Australian public are available from Australian diplomatic and consular posts throughout the world.

Australia's consular service continued to operate effectively and to cope with a large volume of inquiries attributable to a continuing increase in Australian tourism abroad. However, the number of Australians requiring significant consular assistance overseas has remained at about the same level despite the increase in the number of Australians travelling abroad. This may be a dividend of the determined effort in giving consular advice to travellers about conditions in overseas countries, warning on the dangers of becoming involved with drugs, advice on travel insurance and the obligation of travellers to observe the laws of the country they are visiting.

Policy developments during the past year included the signing of a Consular Agreement with Hungary and an exchange of notes on dual nationality which together will facilitate the protection of interests of Australian citizens in that country. Similar agreements are under negotiation with a number of other countries in Eastern Europe.

Since 1 July 1984 all passport applicants have been required to lodge their applications in person. Some 80 per cent of all applications are now handled by post offices. The telephone information service for passport clients has been centralised so that country dwellers are treated similarly to those from the city. In 1987 almost 800,000 passports were issued.

Australian Representation Overseas

As at 30 June 1988, Australia maintained the following diplomatic and consular representation overseas (full details of these missions are available from the Department of Foreign Affairs and Trade, Canberra, ACT, 2600).

Country	*Post*
Argentina	Buenos Aires
Austria	Vienna
Bangladesh	Dhaka
Belgium	Brussels
Brazil	Brasilia
Brunei	Brunei
Burma	Rangoon
Canada	Ottawa
Chile	Santiago
China	Beijing
	Shanghai*
Cyprus	Nicosia
Denmark	Copenhagen
Egypt	Cairo
Federal Republic of Germany	Bonn
Fiji	Suva
France	Paris
	Noumea*
Greece	Athens
Hong Kong	Hong Kong*
Hungary	Budapest
India	New Delhi
	Bombay*
Indonesia	Jakarta
	Bali***
Iran	Tehran
Iraq	Baghdad
Ireland	Dublin
Israel	Tel Aviv
Italy	Rome
Jamaica	Kingston
Japan	Tokyo
Jordan	Amman
Kenya	Nairobi
Kiribati	Tarawa
Korea, Republic of	Seoul
Laos	Vientiane
Malaysia	Kuala Lumpur
Malta	Malta
Mauritius	Port Louis
Mexico	Mexico City
Nauru	Nauru
Nepal	Kathmandu
Netherlands	The Hague
New Zealand	Wellington
Nigeria	Lagos
Pakistan	Islamabad
Papua New Guinea	Port Moresby
Philippines	Manila
Poland	Warsaw
Portugal	Lisbon
Saudi Arabia	Riyadh
Singapore	Singapore
Solomon Islands	Honiara
South Africa	Pretoria
Spain	Madrid
Sri Lanka	Colombo
Sweden	Stockholm
Swizerland	Berne
Syria	Damascus
Thailand	Bangkok
Tonga	Nuku'alofa
Turkey	Ankara
United Kingdom	London
United States	Washington
	Chicago*
	Honolulu*
	Houston*
	Los Angeles*
	New York—CG*
	San Francisco*
USSR	Moscow
Vanuatu	Port Vila
Vatican	Holy See**
Venezuela	Caracas
Vietnam	Hanoi
Western Samoa	Apia
Yugoslavia	Belgrade
Zambia	Lusaka
Zimbabwe	Harare

Australia also maintained five separate permanent missions in:

New York—UN
Geneva—UN
Geneva—Disarmament
Geneva—GATT
Paris—OECD

The Australian Trade Commission maintained trade missions with diplomatic or consular status in the following cities:

Algiers, Auckland, Frankfurt, Jeddah, Milan, Osaka, Toronto and Vancouver.

The Department of Immigration, Local Government and Ethnic Affairs maintained offices with consular status in Manchester and Edinburgh.

* Consulate-General
** Charge d'affaires
*** Consulate

4

DEFENCE

This chapter outlines Australia's defence policy and its defence relationships with other countries; the higher Defence organisation; defence manpower and equipment developments; the functions, organisations, staffing and training of the three Services; the functions and activities of the Capital Procurement Organisation, the Defence Science and Technology Organisation, the Office of Defence Production, the Defence Logistics Organisation and the Natural Disasters Organisation.

Further information on current defence planning and activities is available in the Defence Report and other publications of the Department of Defence, and in statements to the House of Representatives by the Minister for Defence and the Minister for Defence Science and Personnel.

Current Defence Policy

In March 1987 the Government released its White Paper on the Defence of Australia which outlined a comprehensive approach to Australian security and a basis for future planning, force development and defence activities.

The policy of defence self-reliance emphasises the ability to defend Australia and its direct interests using our own resources. This policy is pursued within an international framework of alliances and agreements which reflect Australia's commitment to contribute to peace and stability.

The security of our immediate geographic region is of fundamental strategic importance to Australia, and the continued development of an independent defence capability enhances our ability to contribute to peaceful development within the region. Priority in defence activity is consequently given to areas in Australia's region and high value is placed on fostering defence relationships with the countries of South East Asia and the South West Pacific.

Australia's security arrangements with the United States and New Zealand remain an important element of our defence policy. Although trilateral defence cooperation activities under the ANZUS alliance have been in abeyance due to the New Zealand Government's policy on visits by nuclear-powered and nuclear-weapon capable warships, the ANZUS alliance itself remains in force and continues to provide a background for a wide range of mutually beneficial bilateral defence cooperative activities with the United States. At the same time cooperative activities and projects undertaken with New Zealand continue to sustain Australia's close defence relationship with that country.

Australia's security prospects are favourable. Our relationships with our allies and neighbours are basically sound and we face no identifiable military threats. Nevertheless, our defence planning recognises the possibility that threats could arise, which would have consequences for our security. A high priority is given to the development of military capabilities in the Australian

Defence Force (ADF) which will enable it to defeat more limited threats that could arise at shorter notice. Defence planning also aims to ensure that there are options for a future response to more serious challenges to our security.

Industry policy

Defence policy for industry forms an integral part of overall defence policy in meeting the requirements for defence self-reliance. The capacity of industry to maintain, repair, modify and adapt defence equipment independently of overseas sources is fundamental to the self-reliant defence of Australia. The development of this capacity as well as the maintenance of an adequate supply of replacement equipment and stores are prime defence policy objectives.

Higher Defence Organisation

The higher organisation of the ADF is dealt with in the *Defence Act 1903*, which provides that responsibility for the general control and administration of the ADF rests with the Minister for Defence. Under arrangements introduced in 1987, the Minister for Defence Science and Personnel has particular responsibilities within the Defence portfolio for the oversight of the Defence Science and Technology Organisation and ADF personnel matters.

Chief of the Defence Force

Under section 9(2) of the *Defence Act 1903*, the Chief of the Defence Force (CDF) is vested with the command of the ADF subject to general control by the Minister. The CDF is the chief military adviser to the Minister and is responsible for the planning and conduct of military operations and advice on military strategy and military aspects of defence capabilities necessary to meet government policy. In addition the CDF has, with the Secretary, joint responsibility for administration of the ADF as specified below.

Secretary, Department of Defence

Under the Minister, the Secretary has the powers and responsibilities of a departmental Secretary under the Public Service Act, the Audit Act and Finance Regulations. In addition, section 9A of the *Defence Act 1903* makes the Secretary and the CDF, subject to control by the Minister, jointly responsible for the administration of the ADF (except for the matters falling within the command of the ADF or any other matter specified by the Minister). The Secretary is the principal civilian adviser to the Minister for Defence and is responsible to the Minister for advice on policy, resources and organisation and the use of public funds.

Defence committee system

An extensive committee system operates in the higher Defence organisation to facilitate the formulation of policy for the achievement of government defence objectives. It also facilitates decisions on matters of defence administration, including resource management, and on Joint Service planning and doctrine. The more important committees are described below.

The Council of Defence

The Council of Defence considers and discusses matters relating to the control and administration of the Defence Force referred to it by the Minister for Defence. The Council membership comprises the Minister for Defence, the Minister for Defence Science and Personnel, the Secretary to the Department of Defence, the Chief of the Defence Force, the three Service Chiefs of Staff, and the Vice Chief of the Defence Force.

The Defence Committee

The Committee is chaired by the Secretary to the Department of Defence, with the CDF, the three Chiefs of Staff, and the Secretaries to the Departments of the Prime Minister and Cabinet, Treasury and Foreign Affairs and Trade as members. The Committee advises the Minister for Defence on defence policy as a whole, the coordination of military, strategic, economic, financial and external affairs aspects of defence policy, and matters of policy or principle and important questions having a joint service or interdepartmental aspect.

The Defence Force Development Committee

The Committee is chaired by the Secretary to the Department of Defence, with the CDF and the three Chiefs of Staff as members. It advises the Minister for Defence on force development and the management of resources, including major equipment and facilities acquisitions and formulation of the Five Year Defence Program and annual budget estimates.

The Chiefs of Staff Committee

The Chiefs of Staff Committee is responsible to the Minister for Defence through the Chief of the Defence Force, who is Chairman of the Committee. Its principal function is to provide advice to the Chief of the Defence Force, including professional single-service advice, to assist him in discharging his responsibility for command of the Defence Force.

The Defence Operational Concepts and Capabilities Committee

The Committee is chaired by the Vice Chief of the Defence Force (VCDF). The role of the Committee is to provide improved scrutiny of Service capability proposals at an early stage in the force development process.

Defence Expenditure

The tables below give information about levels, categories and major items of defence expenditure and total project costs for major new projects.

DEFENCE FUNCTION EXPENDITURE, REVENUE AND OUTLAY, PERCENTAGE OF BUDGET OUTLAY AND GROSS DOMESTIC PRODUCT, 1976–77 TO 1987–88

	Expenditure	*Less revenue*	*Outlays*	*Budget sector outlays*	*GDP*
	$m	*$m*	*$m*	*%*	*%*
1976–77	2,255	72	2,182	9.0	2.6
1977–78	2,474	94	2,380	8.9	2.6
1978–79	2,702	90	2,612	9.0	2.6
1979–80	3,114	99	3,015	9.5	2.6
1980–81	3,657	166	3,491	9.7	2.6
1981–82	4,262	207	4,055	9.8	2.7
1982–83	4,940	239	4,701	9.6	2.8
1983–84	5,538	239	5,298	9.4	2.8
1984–85	6,229	291	5,938	9.3	2.9
1985–86	6,982	308	6,674	9.5	2.9
1986–87	7,578	370	7,208	9.6	2.8
1987–88	7,773	332	7,422	9.4	(a)2.5

(a) Based on preliminary GDP.

EXPENDITURE ON DEFENCE FUNCTION, 1987–88 INCLUDING MAJOR CATEGORIES AS PERCENTAGE OF TOTAL

Major categories	*Budget*		*Achieved*	
	$m	%	$m	%
Capital equipment	1,862.6	24.2	1,733.3	22.4
Capital facilities	338.4	4.4	359.0	4.6
Personnel costs	3,254.1	42.2	3,332.9	43.0
Defence cooperation	58.3	0.8	57.5	0.7
Other operating costs	2,035.8	26.4	2,061.0	26.6
Defence Housing	157.3	2.0	210.6	2.7
Expenditure	*7,706.4*	*100.00*	*7,754.2*	*100.00*
Revenue and Trust Accounts	(302.4)		(332.1)	
Defence Function Outlay	**7,404.0**		**7,422.2**	

MAJOR ITEMS OF INVESTMENT EXPENDITURE, 1987–88

Projects	Expenditure
	$m
F/A–18 project and associated equipment	362.9
Six submarines	260.1
Construction of two FFG frigates	127.8
Black Hawk helicopters	94.8
Seahawk helicopters	84.5
Basic trainer aircraft	66.4
Various precision guided weapons	46.6
DDG modernisation	37.2
HF and VHF single channel radios	36.8
Army light vehicles	26.3
Army medium trucks	26.2
Acquisition of four FFG frigates	25.9
Project Nulka	19.2
Air-to-air refuelling aircraft	18.3
Discon	15.0
105mm Army field gun	13.6
Additional B707 aircraft	13.1
Airfield surveillance radars	12.3
Seahawk flight simulator/weapons system trainer	12.2

TOTAL PROJECT COST FOR MAJOR NEW PROJECTS APPROVED, 1987–88

Projects	Total approved cost
	$m
Laser airborne depth sounder	39.8
Towed array full scale engineering development (Kariwara)	31.3
Maritime command support system	30.0
Additional B707 aircraft	25.0
Standard surface-to-air missiles	24.7
Marine pollution control	18.5
Tier 2 frigates (ANZAC Ship)	17.4
Initial minesweeping capability	16.0
Development for over-the-horizon radar network	11.0
Naval communication station relocation	5.3
Avionics test equipment for F–111	4.7
Harpoon anti-ship telemetry missiles	4.4
Satellite navigation equipment	3.1
Supply systems redevelopment	2.7
Manpower systems redevelopment	2.2
Mine warfare systems centre	2.1
DDG modernisation (Chaff decoy system acquisition)	1.9
Nomad aircraft for the Army and the Air Force	1.6
F–111 high speed anti-radiation missile (Harm) trials	1.6
Towed acoustic arrays	0.9

AUSTRALIAN DEFENCE FORCE

The objective of the ADF is to plan, develop and maintain forces for contingencies within Australia's area of direct military interest and to defend Australia and its interests. The ADF is to be structured to be able to undertake current and foreseeable peacetime operational tasks as directed by the Government; deal effectively with the levels of credible contingencies that could arise over shorter timescales; and provide a suitable basis for timely expansion to meet higher levels of threat if Australia's strategic circumstances deteriorated over the longer term.

Meeting the requirements for the defence of Australia provides the government with practical options for the use of elements in the ADF in tasks beyond Australia's area of direct military interest in support of regional friends and of allies.

The CDF commands the ADF and is principal military adviser to the government. Headquarters Australian Defence Force has been expanded and strengthened over recent years to reflect the importance of integrated planning for ADF operations, and for effective joint operations in credible contingencies.

Royal Australian Navy

The objective of the RAN is to raise, train and maintain seaborne forces structured to be able to deal with credible maritime contingencies in Australia's area of direct military interest (generally as part of a joint force) and provide a base for longer term expansion should this be required.

Higher organisation

The Chief of Naval Staff has command of the RAN, subject to the command of the ADF by the CDF. Principal staff officers to the Chief of Naval Staff are the Deputy Chief of Naval Staff, the Assistant Chief of Naval Staff (Development), the Assistant Chief of Naval Staff (Personnel), the Assistant Chief of Naval Staff (Logistics), the Assistant Chief of Naval Staff (Materiel) and the Director General of Supply (Navy). Other senior officers of the RAN include the Flag Officer Naval Support Command and the Flag Officer Commanding HM Australian Fleet.

Ships of the Royal Australian Navy

The Fleet

Guided missile destroyers: *Perth*, *Hobart*, *Brisbane*; guided missile frigates: *Adelaide*, *Canberra*, *Sydney*, *Darwin*; destroyer escorts: *Parramatta*, *Stuart*, *Torrens*, *Derwent*, *Swan*; submarines: *Oxley*, *Otway*, *Ovens*, *Onslow*, *Orion*, *Otama*; coastal minehunter: *Curlew*; inshore minehunters: *Rushcutter*, *Shoalwater*; amphibious heavy lift ship: *Tobruk*; landing craft heavy: *Balikpapan(a)*, *Wewak(a)*, *Tarakan(a)*, *Labuan(b)*; attack class patrol boats: *Aware(b)*, *Adroit(b)*, *Ardent(b)*; Fremantle class patrol boats: *Fremantle(b)*, *Wollongong*, *Dubbo*, *Geraldton*, *Bunbury*, *Ipswich*, *Townsville*, *Bendigo*, *Whyalla*, *Gladstone*, *Warrnambool(b)*, *Cessnock*, *Launceston*, *Gawler*, *Geelong*; training ship: *Jervis Bay*; destroyer tender: *Stalwart*; fleet oiler: *Success*; hydrographic survey ships: *Moresby*, *Flinders*; oceanographic survey ship: *Cook*; interim survey ships: *Betano(c)*, *Brunei(c)*.

NOTES:
(a) Operational Reserve. *(b)* Crewed by Reserves. *(c)* Landing craft heavy.

Fleet Air Arm

The RAN currently operates four different types of helicopters (anti-submarine Sea King Mk50 and Mk50A, and Wessex, Kiowa and Squirrel) and HS 748 electronic warfare training aircraft from HMAS *Albatross*, the Naval Air Station at Nowra in New South Wales. The RAN also operates Jindivik pilotless target aircraft from the Jervis Bay Range facility.

Equipment for the Royal Australian Navy

Significant new equipment received or upgraded by the RAN in 1987–88 included:

- Inshore minehunter—HMAS *Shoalwater*.
- Destroyer modernisation—HMAS *Brisbane*.
- Harpoon Engagement Training Aid.

Deliveries expected during 1988–89 include:

- Seahawk helicopters (16).
- Combat systems trainer.
- Mulloka sonar.

Contracts and tenders negotiated in 1987–88 included:

- A contract signed with the Australian Submarine Corporation for the design and construction of six submarines and associated supplies and services.
- A request issued for tender for the ANZAC Ship project (a joint project with New Zealand).
- A contract for a Flight Simulator/Weapons System Trainer signed with the Singer company.
- A contract for the design and production of four survey motor launches for the RAN awarded to Eglo Engineering SA Pty Ltd.
- A contract for the installation of an FFG Combat System Model at the HMAS *Watson* training facility let to Honeywell Australia Pty Ltd.

Tenders were invited for the design completion, production, trialling and in-service support of the Laser Airborne Depth Sounder.

Training and entry

RAN Staff College

The RAN Staff College located at HMAS *Penguin*, Balmoral, prepares RAN officers of Lieutenant Commander and Lieutenant rank for command and staff appointments. Two courses of 22 weeks duration are run annually, each course comprising 28 students, typically 20 naval officers, one officer each from the Army, RAAF, USN and RNZN, two Public Service Commission officers, and two Defence Cooperation Program students.

Officer entry

There are a number of different avenues of officer entry to the RAN, open to both males and females. Applicants for a permanent commission must be aged between 17 and 20 and meet Service selection criteria and the matriculation requirements of the University of New South Wales in their specialisation. Those selected study for a degree at the Australian Defence Force Academy, while undergoing appropriate Service military and professional studies. Officer appointees specialise in Seaman, Supply and Secretariat, Engineering or Instruction Branches.

Applicants for a short service commission of nine years (including two years training) must be aged between 17 and 24 and have either matriculated to a degree course at an Australian university, college of advanced education or institute of technical and further education, or achieve four passes at Year 12 level. Training is conducted initially at the Royal Australian Naval College at Jervis Bay and subsequently in RAN ships and establishments.

Entry is also available to professionally qualified personnel such as doctors, nurses, teachers, engineers and lawyers, who must be less than age 31 and appropriately qualified. Initial training of Direct Entry Officers is conducted at Jervis Bay.

Sailor entry

There are several available entry schemes, all of which are open to both males and females, depending upon an individual's age, educational standard, final employment and interests. New entry training is carried out at the following establishments:

- HMAS *Nirimba* at Quakers Hill, is the primary establishment for all RAN trade training which includes courses for apprentices aged between 15 and 18 and direct entry tradesmen. HMAS *Nirimba* is also responsible for the training of general duties sailors.
- HMAS *Cerberus* at Westernport, is the primary training establishment for all general entry, non-apprentice recruits aged between 16 or 17 and 28, depending on category specialisation. Recruits receive common basic training before progressing to category training courses.
- Advanced category training is additionally undertaken at various schools at HMAS *Penguin* and HMAS *Watson* in Sydney and the Naval Air Station at Nowra, NSW. A number of specialist courses are conducted in the United States and the United Kingdom.

Naval dockyards

There is a naval dockyard at Garden Island, Sydney. The Williamstown Dockyard near Melbourne was sold to the Australian Marine Engineering Corporation in February 1988. In 1987–88, Defence also commenced preliminary action in connection with the disposal of Cockatoo Island in Sydney.

Australian Army

The objective of the Australian Army is to raise, train and maintain ground forces structured to deal with credible land contingencies in the defence of Australia, its territories and interests, generally as part of a joint force, using both Regular and Reserve forces; and provide a basis for longer term expansion.

Higher organisation

Command of the Army is the responsibility of the Chief of the General Staff, subject to the overall command of the ADF by the CDF. His principal staff officers are the Deputy Chief of the General Staff, Assistant Chief of the General Staff—Operations, Assistant Chief of the General Staff—Personnel, Assistant Chief of the General Staff—Logistics, Assistant Chief of the General Staff—Materiel and the Assistant Chief of the General Staff—Army Reserve.

The Army is organised into three commands as follows:

- *Land Command*—commands all field army units of the Australian Army, both Regular and Army Reserve.
- *Logistic Command*—commands the principal logistic elements of the Army.
- *Training Command*—is responsible for all individual training and commands all Army training establishments and schools with the exception of the Royal Military College, Duntroon which is under the command of the Chief of the General Staff.

Military districts as listed below provide administrative support for the three commands and, in certain cases, act as intermediate headquarters for them. The military district headquarters also handle those matters in which both Commonwealth and State Governments are involved.

- *1st Military District*—the State of Queensland.
- *2nd Military District*—the State of New South Wales, less those parts included in 3rd and 4th Military Districts.
- *3rd Military District*—the State of Victoria and part of southern New South Wales.
- *4th Military District*—the State of South Australia plus a portion of south-western New South Wales.
- *5th Military District*—the State of Western Australia, less the Kimberley Local Government Area.

- *6th Military District*—the State of Tasmania.
- *7th Military District*—the Northern Territory plus the Kimberley Local Government Area of Western Australia.

Training

Officer training

The Army conducts pre-commissioning training of its officers at:

- *Royal Military College*. Located at Duntroon in the Australian Capital Territory, this college provides military pre-commissioning training for all officers of the Regular Army except Specialist Service Officers, but including those attending the Australian Defence Force Academy.
- *Officer Cadet Training Units*. These units are located in each military district and provide pre-commissioning training for the majority of officers for the Army Reserve.
- *University Regiments*. These units identify and train tertiary students as officers for service in the Army Reserve.
- *Specialist Service Officer Course*. This course is conducted at Land Warfare Centre, Canungra, Queensland, and provides an introduction to the Army for newly commissioned Specialist Service Officers in professions such as Aviation, Law, Medicine and Dentistry.

Command and Staff College

Located at Queenscliff in Victoria, the College provides training for selected Australian and overseas officers to prepare them for command and staff appointments in the rank of Lieutenant Colonel.

Other rank training

Initial training for other ranks is provided as follows:

- *1st Recruiting Training Battalion, Kapooka*. This unit is the major training unit for all general enlistees into the Regular Army.
- *Army Apprenticeship School, Bonegilla*. This school provides initial trade and military training for apprentice enlistees.
- *Army Reserve*. Recruits attend initial training at courses conducted by Training Groups located in most military districts.

Land Warfare Centre

The Land Warfare Centre at Canungra conducts courses for both officers and other ranks as follows:

- promotion subjects;
- tactics and administration;
- individual battle skills;
- sub-unit operations.

Other schools

Army schools have been established to train officers and other ranks in up-to-date techniques of their own arm or service. Courses conducted include training, promotion and instructor development for members of both the Regular Army and the Army Reserve.

Equipment for the Army

Significant equipment introduced into service by the Army in 1987–88 included:

- 500 light vehicles;
- 259 four tonne trucks;
- RBS 70 very low level air defence weapon system;
- all terrain cranes;
- two field kitchens;

- disruptive pattern uniforms;
- an electronic warfare support measures sub-system;
- night vision goggles.

Deliveries expected in 1988–89 include:

- medium trucks;
- semitrailers and prime movers;
- new small arms;
- field artillery;
- field kitchens;
- 14 Black Hawk helicopters.

Royal Australian Air Force

The function of the RAAF is the conduct of operations in the air for the defence of Australia and Australian interests.

Higher organisation

The RAAF is commanded by the Chief of the Air Staff (CAS) who is responsible to the Minister for Defence through the CDF for that command. He is assisted by the Deputy Chief of the Air Staff and Assistant Chief of the Air Staff (Development), Assistant Chief of the Air Staff (Materiel), Assistant Chief of the Air Staff (Personnel), Assistant Chief of the Air Staff (Engineering) and Assistant Chief of the Air Staff (Supply), all located in Air Force Office.

RAAF commands

The RAAF is organised into two functional commands—Air Command with headquarters at Glenbrook and Support Command with headquarters in Melbourne. Air Command is responsible for the conduct of air operations and operational training while Support Command is responsible for basic training logistics and maintenance of RAAF equipment. Air Command comprises the following groups: Strike/Reconnaisance Group (SRG), Tactical Fighter Group (TFG), Airlift Group (ALG), Maritime Patrol Group (MPG), and Tactical Transport Group (TTG).

Aircraft

Air Command

SRG — F–111 (Amberley)

TFG — F/A–18 Hornet, Macchi (Williamtown and Tindal)

ALG — C130 Hercules, Boeing 707, BAC 111, Mystere, HS748 (Richmond and Canberra)

MPG — P3C Orion (Edinburgh, SA)

TTG — Caribou, Chinook, Iroquois, Squirrel, Black Hawk (Townsville and Canberra)

Support Command

Basic Pilot Training—CT4, Macchi and PC9 (Point Cook and Pearce)

Instructor Pilot Training—CT4, Macchi and PC9 (East Sale)

Navigator Training—HS748 (East Sale)

Training

Australian Defence Force Academy

The Academy is the primary source of tertiary-qualified entrants to the General Duties, Engineer and Supply branches of the Officer Corps.

Basic Aircrew Training

Flying training for RAAF pilots is conducted at Point Cook and Pearce. RAAF navigators are trained at East Sale, and Airmen Aircrew (Flight Engineers, Loadmasters and Air Electronics Analysts) undergo basic training at Edinburgh.

Officer Training

The RAAF College Point Cook undertakes initial training of those officers who enter the RAAF other than through the Australian Defence Force Academy. The College also conducts a Basic Staff Course of six weeks.

Staff College

The RAAF Staff College Fairbairn conducts staff training for senior officers to fit them for staff and command appointments. The course is generally 43 weeks.

Ground Training

- Initial Basic Training Edinburgh
- School of Radio Laverton
- School of Technical Training Wagga, including Catering, Clerical and Man Management courses.

Developments during the year

Significant highlights in 1987–88 included:

- Delivery of 50 F/A–18 Hornets.
- Second F/A–18 Simulator installed at Tindal.
- PC–9 brought into service.
- RAAF Base Curtin at Derby opened.
- Five Black Hawk helicopters accepted.
- RAAF base Tindal staffed and developed.
- Site for a base near Weipa announced.
- Airfield Surveillance radars for RAAF Tindal and East Sale installed.

Significant developments under way are:

- Conversion of the first of four B707s for aerial refuelling.
- Tenders for provision of an Airborne Early Warning and Control System.
- Contract finalised for a Tower Visual Simulator for Air Traffic Control students at East Sale.

Defence Personnel

In keeping with the requirements of the Defence Policy Information Paper, a Personnel Resource Strategy has been introduced. The objective of the Strategy is to promote the most effective use of all Defence personnel resources including Regular and Reserve Forces, civilans and contractors.

Service personnel

An important element of the Personnel Resource Strategy is the creation of a Trained Force and a Training Force in the ADF. The Trained Force is designed to effectively meet the operational tasks required by the government. The Training Force is conceived as a flexibly-sized element of the ADF whose main objective is to provide comprehensive pre-employment training to newly recruited cadets and trainees. When trained, these personnel are made available to the Trained Force to maintain its strength. The strategy insulates the Trained Force from the influences of variable separation rates in ADF personnel.

AUSTRALIAN DEFENCE FORCE—TRAINED FORCE/TRAINING FORCE AVERAGE STRENGTHS, 1987–88

	Navy	*Army*	*Airforce*	*ADF*
Trained Force	13,842	28,883	20,476	63,201
Training Force	1,085	3,088	2,078	6,971

DISTRIBUTION OF SERVICE PERSONNEL AND CIVILIAN STAFF AVERAGE STRENGTH, 1987–88

	Navy	*Army*	*RAAF*	*ADF*	*Civilians*	*Total*
Current Forces—						
ADF Command	328	551	434	1,313	229	1,542
Navy	15,100	. .	. .	15,100	5,087	20,187
Navy Reserves	154	. .	. .	154	. .	154
Army	. .	31,212	. .	31,212	6,924	38,136
Army Reserves	. .	2,728	. .	2,728	. .	2,728
Air Force	. .	. .	21,820	21,820	3,390	25,210
Air Force Reserves	. .	. .	219	219	. .	219
Total	*15,582*	*34,491*	*22,473*	*72,546*	*15,630*	*88,176*
Corporate Services—						
Executive	. .	. .	. .	. .	6	6
Personnel, Management Improvement and Financial Services	119	53	161	333	3,606	3,939
Strategic Planning	73	87	73	233	1,024	1,257
Logistics Organisation	7	35	21	63	816	879
Total	*199*	*175*	*255*	*629*	*5,452*	*6,081*
Defence Development—						
Procurement of Capital Equipment	5	16	37	58	290	348
Australian Industry Involvement	. .	. .	. .	. .	102	102
Procurement of Capital Facilities	. .	2	. .	2	155	157
Total	*5*	*18*	*37*	*60*	*547*	*607*
Defence Support—						
Natural Disasters and Civil Defence	1	5	. .	6	62	68
Defence Housing	. .	3	. .	3	22	25
Defence Cooperation	. .	. .	. .	. .	2	2
Defence Production	. .	. .	. .	. .	9,850	9,850
Defence Science and Technology	9	15	14	38	4,253	4,291
Total	*10*	*23*	*14*	*47*	*14,189*	*14,236*
Total	**15,796**	**34,707**	**22,779**	**73,282**	**35,818**	**109,100**

Defence Support Organisations

Capital Procurement Organisation—CPO

CPO manages the process of procuring capital equipment for the ADF. Its functions are:

- to efficiently and effectively procure approved capital equipment for timely introduction into the ADF; and

- to develop an efficient industrial base in Australia capable of self-reliant supply and support of the ADF in contingencies, through peacetime procurements and industry development policies, including development funding, designated work, offsets, exports and technology transfer.

Immediate CPO objectives are to:

- improve individual and team project management skills through training and staff deployment programs;
- structure procurements to better harness and develop industrial capabilities through competition and contractual incentives, and to better assure project success in terms of time, cost and quality;
- more closely relate industry policies to strategic guidance and regional circumstances;
- coordinate financial program management more closely with project progression; and
- better manage new technologies and capabilities through the delicate development phase, i.e. effective transition from research and development to the acquisition phases as operational systems.

To achieve these functions the CPO is organised as follows:

Resources and Project Support Division

- advises on financial, industry, resource and commercial aspects of individual acquisitions;
- evaluates and further develops proposals from suppliers;
- participates in contract negotiation and develops international procurement cooperation programs;
- coordinates the approved capital equipment program;
- provides business and financial advice to Service Materiel Divisions; and
- monitors quality and level of Australian industry involvement in capital equipment purchases.

Industry Policy and Operations Division

- formulates and coordinates the application of Defence industry and procurement policy;
- facilitates the commercial exploitation of indigenously developed and produced defence equipment and intellectual property;
- advises on defence industry capability objectives; and
- advises and assists in the formulation of programs for the development of defence industry and facilities and their participation in defence related acquisition.

Project Development and Communications Division

- develops, programmes and manages the procurement of new secure, survivable, Defence Strategic Communications Systems;
- provides overall systems planning, establishes network architecture and manages procurement of strategic over-the-horizon radar surveillance systems;
- develops, programs and manages the procurement of Strategic Command Support Systems;
- develops, programs and manages major and minor capital equipment projects and contracts associated with the communications systems; and
- manages projects in transition from a Defence research and development phase to the production and Service acquisition phase.

Defence Science and Technology Organisation—DSTO

DSTO forms the second largest research organisation in Australia, employing some 1,000 professional scientists and engineers in its total staff of about 4,300 and has representatives in London and Washington and establishments in five States.

Following recommendations from the Australian Science and Technology Council (ASTEC) the Minister amended the function of DSTO which was to:

- contribute to the development and implementation of Australian defence policies through the provision of assistance to the ADF, the Department of Defence, other defence agencies and, as necessary in the national interest, Australian industry.

The objectives of DSTO are now to:

- develop and maintain a base of skill and knowledge in defence science and technology and foster scientific and technological expertise in industry and tertiary institutions, concentrating on areas relevant to the Australian strategic and natural environment;
- provide scientific and technical advice on defence policy matters and advise on the selection and acquisition of new equipment and systems and their suitability for operation in the Australian environment;
- contribute to the solution of scientific and technological problems for the ADF, the Department, other defence agencies and relevant Australian industries, including problems arising from the operational use, maintenance, local production and extension of life of equipment and systems;
- conceive new devices, equipment or systems of potential value to Australian defence and, in accordance with delegated approvals, manage or undertake successive stages of development; and
- assist appropriate non-Defence bodies where the DSTO has skills or facilities not available elsewhere in Australia, contribute to fostering a viable and active defence industry and contribute where appropriate to the development of overall Australian industrial capability.

In response to changing economic circumstances and its expanded function and objectives the DSTO is being restructured to:

- establish stronger links with industry including, where appropriate, sectors of industry not involved directly in defence work;
- arrange for more DSTO work to be exploited commercially;
- achieve a higher profile through better publicity;
- improve efficiency by streamlining project management; and
- broaden its technology base by devoting more resources to applied research.

To meet these goals full-scale engineering development work will be passed to industry whenever possible. The restructured DSTO comprises:

Aeronautical Research Laboratory (ARL) based in Melbourne

Conducting research in such fields as aerodynamics, aircraft materials, structural integrity and efficiency of aircraft, analysis and integration of systems, and on air breathing propulsion systems and engine airframe integration and performance. Also assists civil aviation in some of these fields.

Electronics Research Laboratory (ERL) located in Salisbury, SA

Conducting research in the fields of electronic warfare, information technology, communications and command and control.

Materials Research Laboratory (MRL) located in Melbourne

Conducts research into organic and inorganic materials, metallurgy and the behaviour of composites, explosives and explosive munitions, mines and underwater ordnance, camouflage and other forms of protection of personnel and equipment and the design and construction of land and sea platforms.

Surveillance Research Laboratory (SRL) located in Salisbury

Undertakes research into HF radar, microwave radar and optoelectronics for eletromagnetic surveillance.

Weapons Systems Research Laboratory (WSRL) based in Salisbury

Researches aeroballistics aspects of weapons and weapon systems, rocket and gun propulsion systems, combat data and display systems, guidance and control systems for weapons, underwater detection systems and their integration with other military equipment. The laboratory also has staff based at Pyrmont, Sydney who analyse maritime warfare, maritime exercises and research underwater acoustics, oceanography, and sonars.

Office of Defence Production—ODP

ODP has the responsibility of efficently managing a range of specialised industrial capabilities in support of the ADF.

It discharges this responsibility through the effective management of a wide variety of government owned and operated defence factories and dockyards employing some 10,000 people with a variety of skills and a range of manufacturing processes.

These facilities are:

Garden Island Dockyard, Sydney, NSW

Repairs, refits and modernises ships and support craft. As technical authority for a range of ships, provides appropriate specialist information and guidance to the Navy. Maintains specialised naval equipment in radio communications stations and establishments.

Small Arms Factory, Lithgow, NSW

Manufactures rifles and small calibre weapons, ammunition components and light engineering components. Provides support services for the overhaul, repair and modification of military small arms.

Explosives Factory, Mulwala, NSW

Manufactures guns and small arms propellants.

Munitions Filling Factory, St Marys, NSW

Fills and assembles gun ammunition, bombs, grenades and pyrotechnics.

Guided Weapons and Electronics Support Facility, St Marys, NSW

Maintains defence electronics components, assemblies and systems, including testing, evaluation, repair and post-design service. Undertakes certain radio frequency modelling tasks.

Ordnance Factory, Maribyrnong, Vic.

Manufactures ordnance, projectiles, bomb bodies, depth charges, missile launchers, general engineering equipment, heavy forgings and undertakes fabrication.

Ordnance Factory, Bendigo, Vic.

Manufactures guns and gun mountings, aerial bombs, ships gearing and propulsion shafting. Undertakes fabrication and machining.

Ammunition Factory, Footscray, Vic.

Manufactures small and medium calibre ammunition, cases, fuses, primers and components.

Explosives Factory, Maribyrnong, Vic.

Manufactures gun and rocket propellants; designs, develops and assembles rocket motors and designs major chemical and explosives processing plant.

Australian Government Clothing Factory, Coburg, Vic.

Manufactures uniforms and protective clothing for the ADF, and Commonwealth and State departments and instrumentalities.

Production Development Facility, Salisbury, SA

Designs development and production facilities for rocket motors.

Defence Logistics Organisation — DLO

DLO is responsible for:

- advising the Secretary on policy, resources and organisation of defence logistics and those aspects of financial planning and programming assigned to it by the Secretary;
- planning, coordinating and facilitating the effective supply and support of logistic services and activities in the most economic manner feasible;
- promoting the improved cohesion and effectiveness of logistics activities and maximising exploitation of opportunities for rationalisation and economy; and
- promoting the use of performance evaluation systems which emphasise results.

DLO is organised as follows:

Logistics Review Group has the task of reviewing the:

- size, structure and responsibilities of relevant parts of the Department;
- means to improve performance and effectiveness across the range of logistic functions;
- means to reduce costs, promote cost consciousness and expenditure control;
- ways to reduce unnecessary demands on service logistics manpower and release manpower for higher priority activities;
- introduction of common approaches to like activities and promotion of interoperability and optimisation of single or joint service arrangements;
- rationalisation of Defence property holdings; and
- placing of responsibility and authority closer to point of action.

Logistics Development Division has the task of developing and implementing policies aimed at achieving a common standard of logistics procedure and practice across the services and Department and provides computing support for the ADF logistics function. Areas of particular emphasis include:

- inventory policy and provisioning, procedures, cataloguing and warehousing policy;
- management and storage of explosives and hazardous stores;
- effective and economic use of transport resources by the ADF;
- management of materiel aspects of the Defence Cooperation Program;
- quality assurance, engineering resources and repair and maintenance policy development;
- negotiation of logistic support agreements with other countries;
- oversight of Materials Testing Laboratory activities; and
- redevelopment of the Services logistic computing systems, and disposal of major capital equipment.

Facilities and Property Division has the overall task of developing and implementing facilities and property policies, plans and programs, within overall government and Defence policy, financial and priority guidelines.

Information and Systems Policy Division is responsible for the planning, development and maintenance of the Defence EDP and information system. It provides consultancy and advice on information systems for the Defence organisation.

Defence Contracting Organisation has the responsibility for all purchasing by contract, placed from Australia, of capital equipment, supplies and services above the public tender threshold for the Department of Defence and the Australian Defence Force.

Natural Disasters Organisation—NDO

NDO has a number of responsibilities aimed at minimising the effects of natural disasters on the Australian community and provides infrastructure and training to cope with natural disasters. In discharging these responsibilities it:

- develops national counter-disaster plans and civil defence policy and plans;
- coordinates the provision by the Commonwealth of physical assistance to the States and Territories in the event of a disaster;
- operates the National Emergency Operations Centre;

- coordinates government and non-government disaster relief to Papua New Guinea and the South West Pacific nations at the request of the Australian Development Assistance Bureau;
- directs Commonwealth support programs to the State and Territory Emergency Services;
- maintains fallout shelter survey expertise; and
- directs the Australian Counter Disaster College in training and educating disaster managers and researching aspects of disasters and disaster management.

International Defence Relations

The Defence Policy Information Paper established self reliance as the basis of Australia's defence. This policy is pursued within a framework of alliance and regional defence associations supported by a defence-in-depth strategy.

Alliance cooperation with the United States

Australia's major alliance is with the United States which enhances our military capabilities and supports an effective strategic balance with the Soviet Union.

Our common interests are reflected in a wide range of bilateral activities. Benefits to Australia are:

- an extensive program of military training and combined exercises;
- intelligence exchanges; and
- cooperation in defence science and technology, communications and logistics.

Relations with New Zealand

Our cooperation with New Zealand during 1987–88 involved a range of activities including:

- broad patterns of training, exercising, ship visits, information exchange, maritime surveillance and logistics cooperation;
- 24 combined exercises and exchanges were held involving all three services; and
- 430 New Zealand Defence Force personnel attended military training courses in Australia.

Regional cooperation

Self reliance requires active defence relations with our regional neighbours. The capabilities developed for our defence assist us to maintain regional security.

Important activities and achievements in our defence relations with South East Asia during 1987–88 included:

- visits by the Minister for Defence to Thailand, Malaysia, Singapore and Brunei;
- the conclusion of arrangements for ADF presence at Butterworth air base in Malaysia to mark the changeover from our Mirage presence there to the commencement of rotational deployments of F/A–18 aircraft from Australia in support of Five Power air defence exercises;
- the signature of a Memorandum of Arrangements for RAAF deployments to Singapore for Five Power and bilateral exercises;
- agreement with Malaysia and Singapore for increased RAN deployments to South East Asian waters;
- signature of a Status of Forces Agreement with Singapore to cover the unilateral training activities of the Singapore Armed Forces in Australia, and of a Memorandum of Arrangements covering Republic of Singapore Air Force deployments to RAAF Amberley;
- agreement between defence officials of Indonesia and Australia that the focus of bilateral contacts would move from material-based projects towards a more broadly-based and

flexible pattern of activities including exercises, training, senior level visits and personnel exchanges; and

- agreement for the commencement of a bilateral land exercise series in Thailand.

Our cooperative activities with Papua New Guinea and the countries of the South Pacific are broadly based and benefit regional countries in addition to fulfilling our defence policy objective. Major cooperative activities and achievements during 1987–88 were:

- signature by Prime Ministers in December 1987 of the Joint Declaration of Principles Guiding Bilateral Relations between Papua New Guinea and Australia which provides, inter alia, for consultation in the event of external armed attack threatening the national sovereignty of either country so that each government may decide what measures should be taken, jointly or separately, in relation to that attack;
- agreement between Australia and Papua New Guinea on Australian assistance in several major infrastructure development projects of defence relevance including the upgrading of the Lombrum Boat Base wharf, Manus Island and the Lancron Slipway, Port Moresby;
- agreement between defence officials of Australia and Papua New Guinea to establish a program of exchange officer posting to augment and, over time, replace ADF officers serving in the PNGDF or in ADF formed units located in Papua New Guinea;
- convening of the South Pacific Regional Maritime Surveillance Seminar in Port Vila in March 1988, allowing South Pacific Forum countries to discuss common requirements and the benefits of cooperation;
- the opening of the Solomon Islands National Surveillance Centre, constructed with defence cooperation assistance;
- the handing over of the third Pacific Patrol Boat to Papua New Guinea and the fourth to Western Samoa; and
- Signature by the Australian Government of a contract with Australian Shipbuilding Industries (WA) for the establishment of support facilities for Pacific Patrol Boats in service in regional countries. The facilities will be located in Port Moresby and Townsville.

5

PHYSICAL GEOGRAPHY AND CLIMATE OF AUSTRALIA

This chapter is concerned with the physical geography of Australia and Australia's climate. Detailed climatic data for each capital city are included at the end of the chapter.

Geography of Australia

Position and area

Position

Australia comprises a land area of 7,682,300 square kilometres. The land lies between latitudes 10°41′S. (Cape York) and 43°39′S. (South Cape, Tasmania) and between longitudes 113°09′E. (Steep Point) and 153°39′E. (Cape Byron). The most southerly point on the mainland is South Point (Wilson's Promontory) 39°08′S. The latitudinal distance between Cape York and South Point is about 3,180 kilometres, while the latitudinal distance between Cape York and South East Cape, Tasmania, is 3,680 kilometres. The longitudinal distance between Steep Point and Cape Byron is about 4,000 kilometres.

Area of Australia compared with other countries

The area of Australia is almost as great as that of the United States of America (excluding Alaska), about 50 per cent greater than Europe (excluding USSR) and 32 times greater than the United Kingdom. The following table shows the area of Australia in relation to areas of other continents and selected countries.

AREAS OF CONTINENTS AND SELECTED COUNTRIES
('000 square kilometres)

Country	*Area*
Continental divisions—	
Europe *(a)*	4,936
Asia *(a)*	27,532
USSR (Europe and Asia)	22,402
Africa	30,319
North and Central America and West Indies	24,247
South America	17,834
Oceania	8,504
Country—	
Australia	7,682
Brazil	8,512
Canada	9,976
China	9,590
Germany, Federal Republic of	248
India	3,288
Indonesia	1,919
Japan	372
Papua New Guinea	462
New Zealand	269
United Kingdom	244
United States of America *(b)*	9,363
Total, land mass excluding Arctic and Antarctic continents	**135,771**

(a) Excludes USSR, shown below. *(b)* Includes Hawaii and Alaska.

Rivers and lakes

The rivers of Australia may be divided into two major classes, those of the coastal margins with moderate rates of fall and those of the central plains with very slight fall. Of the rivers of the east coast, the longest in Queensland are the Burdekin and the Fitzroy, while the Hunter is the largest coastal river of New South Wales. The longest river system in Australia is the Murray–Darling which drains part of Queensland, the major part of New South Wales and a large part of Victoria, finally flowing into the arm of the sea known as Lake Alexandrina, on the eastern side of the South Australian coast. The length of the Murray is about 2,520 kilometres and the Darling and Upper Darling together are also just over 2,500 kilometres long. The rivers of the north-west coast of Australia, e.g. the Murchison, Gascoyne, Ashburton, Fortescue, De Grey, Fitzroy, Drysdale and Ord, are of considerable size. So also are those rivers in the Northern Territory, e.g. the Victoria and Daly, and those on the Queensland side of the Gulf of Carpentaria, such as the Gregory, Leichhardt, Cloncurry, Gilbert and Mitchell. The rivers of Tasmania have short and rapid courses, as might be expected from the configuration of the country.

There are many types of lake in Australia, the largest being drainage sumps from the internal rivers. In dry seasons these lakes finally become beds of salt and dry mud. The largest are Lake Eyre 9,500 square kilometres, Lake Torrens 5,900 square kilometres and Lake Gairdner 4,300 square kilometres.

Other lake types are glacial, most common in Tasmania; volcanic crater lakes predominantly in Victoria and Queensland; fault angle lakes, of which Lake George near Canberra is a good example and coastal lakes formed by marine damming of valleys.

Area, coastline, tropical and temperate zones, and standard times

The areas of the States and Territories and the length of the coastline were determined in 1973, by the then Division of National Mapping, Department of National Resources, by manually digitising these features from the 1:250,000 map series of Australia. This means that only features of measurable size at this scale were considered. About 60,000 points were digitised at an approximate spacing of 0.5 kilometre. These points were joined by chords as the basis for calculation of areas and coastline lengths by computer.

The approximate high water mark coastline was digitised and included all bays, ports and estuaries which are open to the sea. In these cases, the shoreline was assumed to be where the seaward boundary of the title of ownership would be. In mangroves, the shoreline was assumed to be on the landward side. Rivers were considered in a similar manner but the decisions were rather more subjective, the line being across the river where it appeared to take its true form.

AREA, COASTLINE, TROPICAL AND TEMPERATE ZONES, AND STANDARD TIMES
AUSTRALIA

	Estimated area			*Percentage of total area*		*Standard times*	
State or Territory	*Total*	*Percentage of total area*	*Length of coastline*	*Tropical zone*	*Temperate zone*	*Meridian selected*	*Ahead of GMT(a)*
	km^2		km				hours
New South Wales	801,600	10.43	1,900	..	100	150°E	*(b)*10.0
Victoria	227,600	2.96	1,800	..	100	150°E	*(b)*10.0
Queensland	1,727,200	22.48	7,400	54	46	150°E	10.0
South Australia	984,000	12.81	3,700	..	100	142°30′E	*(b)*9.5
Western Australia	2,525,500	32.87	12,500	37	63	120°E	8.0
Tasmania	67,800	0.88	3,200	..	100	150°E	*(b)*10.0
Northern Territory	1,346,200	17.52	6,200	81	19	142°30′E	9.5
Australian Capital Territory	2,400	0.03	35	..	100	150°E	*(b)*10.0
Australia	**7,682,300**	**100.00**	**36,735**	**39**	**61**	..	..

(a) Greenwich Mean Time. *(b)* For States with 'daylight saving' an hour should be added for this period.

Climate of Australia

The climate of Australia is predominantly continental but the insular nature of the land mass is significant in producing some modification of the continental pattern.

The island continent of Australia is relatively dry, with 80 per cent of the area having a median rainfall of less than 600 millimetres per year and 50 per cent less than 300 millimetres. Extreme minimum temperatures are not as low as those recorded in other continents because of the absence of extensive mountain masses and because of the expanse of the surrounding oceans. However, extreme maxima are comparatively high, reaching 50°C over the inland, mainly due to the great east–west extent of the continent in the vicinity of the Tropic of Capricorn.

Climatic discomfort, particularly heat discomfort, is significant over most of Australia. During summer, prolonged high temperatures and humidity around the northern coasts and high temperatures over the inland cause physical discomfort. In winter, low temperatures and strong cold winds over the interior and southern areas can be severe for relatively short periods.

Climatic controls

The generally low relief of Australia causes little obstruction to the atmospheric systems which control the climate. A notable exception is the eastern uplands which modify the atmospheric flow.

In the winter half of the year (May–October) anticyclones, or high pressure systems, pass from west to east across the continent and often remain almost stationary over the interior for several days. These anticyclones may extend to 4,000 kilometres along their west–east axes. Northern Australia is then influenced by mild, dry south-east trade winds, and southern Australia experiences cool, moist westerly winds. The westerlies and the frontal systems associated with extensive depressions travelling over the Southern Ocean have a controlling influence on the climate of southern Australia during the winter season, causing rainy periods. Cold outbreaks, particularly in south-east Australia, occur when cold air of Southern Ocean origin is directed northwards by intense depressions having diameters up to 2,000 kilometres. Cold fronts associated with the southern depressions, or with secondary depressions over the Tasman Sea, may produce large day-to-day changes in temperature in southern areas, particularly in south-east coastal regions.

In the summer half of the year (November–April) the anticyclones travel from west to east on a more southerly track across the southern fringes of Australia directing easterly winds generally over the continent. Fine, warmer weather predominates in southern Australia with the passage of each anticyclone. Heat waves occur when there is an interruption to the eastward progression of the anticyclone (blocking) and winds back northerly and later north-westerly. Northern Australia comes under the influence of summer disturbances associated with the southward intrusion of warm moist monsoonal air from north of the inter-tropical convergence zone, resulting in a hot rainy season.

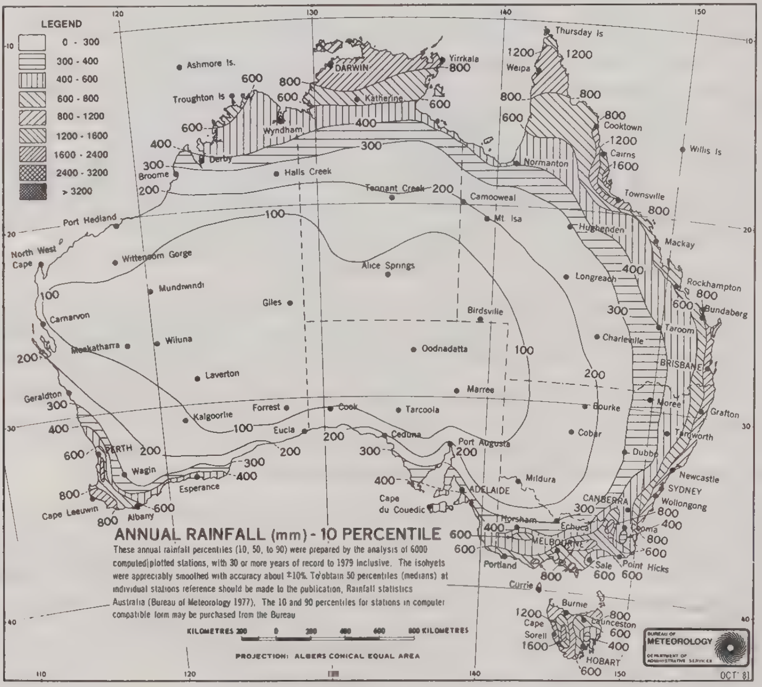
Tropical cyclones develop over the seas around northern Australia in summer between November and April. Their frequency of occurrence and the tracks they follow vary greatly from season to season. On average, about three cyclones per season directly affect the Queensland coast, and about three affect the north and north-west coasts. Tropical cyclones approaching the coast usually produce very heavy rain and high winds in coastal areas. Some cyclones move inland, losing intensity but still producing widespread heavy rainfall. Individual cyclonic systems may control the weather over northern Australia for periods extending up to three weeks.

Rainfall

Annual

The annual 10, 50 and 90 percentile* rainfall maps are shown on Figures 1, 2 and 3 respectively. The area of lowest rainfall is in the vicinity of Lake Eyre in South Australia, where the median (50 percentile) rainfall is only about 100 millimetres. Another very low rainfall area is in Western Australia in the Giles–Warburton Range region, which has a median annual rainfall of about 150 millimetres. A vast region, extending from the west coast near Shark Bay across the interior of Western Australia and South Australia to south-west Queensland and north-west New South Wales, has a median annual rainfall of less than 200 millimetres. This region is not normally exposed to moist air masses for extended periods and rainfall is irregular, averaging only one or two days per month. However, in favourable synoptic situations, which occur infrequently over extensive parts of the region, up to 400 millimetres of rain may fall within a few days and cause widespread flooding.

The region with the highest median annual rainfall is the east coast of Queensland between Cairns and Cardwell, where Tully has a median of 4,048 millimetres (63 years to 1987 inclusive). The mountainous region of western Tasmania also has a high annual rainfall, with Lake Margaret having a median of 3,565 millimetres (76 years to 1987 inclusive). In the mountainous areas of north-east Victoria and some parts of the east coastal slopes there are small pockets with median annual rainfall greater than 2,500 millimetres, but the map scale is too small for these to be shown.


LEGEND
0 - 300
300 - 400
400 - 600
600 - 800
800 - 1200
1200 - 1600
1600 - 2400
2400 - 3200
> 3200
Thursday Is
Yirrkala
DARWIN
Katherine
Wyndham
Derby
Broome
Halls Creek
Ashmore Is.
Troughton Is
Weipa
Cooktown
Cairns
Normanton
Willis Is
Townsville
Tennant Creek
Camooweal
Mt Isa
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Bundaberg
Carnarvon
Giles
Birdsville
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
Mildura
Newcastle
SYDNEY
ADELAIDE
CANBERRA
Wollongong
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
BUREAU OF METEOROLOGY
DEPARTMENT OF ADMINISTRATIVE SERVICES
OCT' 81
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
100
200
300
400
600
800
1200
1600
110
120
130
140
150
10
20
30
40

ANNUAL RAINFALL (mm) - 10 PERCENTILE

These annual rainfall percentiles (10, 50, to 90) were prepared by the analysis of 6000 computed/plotted stations, with 30 or more years of record to 1979 inclusive. The isohyets were appreciably smoothed with accuracy about ±10%. To obtain 50 percentiles (medians) at individual stations reference should be made to the publication, Rainfall statistics Australia (Bureau of Meteorology 1977). The 10 and 90 percentiles for stations in computer compatible form may be purchased from the Bureau

FIGURE 1

---

*The amounts that are not exceeded by 10, 50 and 90 per cent of all recordings are the 10, 50 and 90 percentiles or the first, fifth and ninth deciles respectively. The 50 percentile is usually called the median.

The Snowy Mountains area in New South Wales also has a particularly high rainfall. The highest median annual rainfall isohyet drawn for this region is 3,200 millimetres, and it is likely that small areas have a median annual rainfall approaching 4,000 millimetres on the western slopes above 2,000 metres elevation.

The following table shows the area distribution of median annual rainfall.

AREA DISTRIBUTION OF MEDIAN ANNUAL RAINFALL: AUSTRALIA
(per cent)

Median annual rainfall	*NSW (a)*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Aust.*
Under 200 mm	8.0	..	10.2	74.2	43.5	..	15.5	29.6
200 to 300 mm	20.3	6.3	13.0	13.5	29.6	..	35.6	22.9
300 to 400 mm	19.0	19.2	12.3	6.8	10.5	..	9.0	11.2
400 to 500 mm	12.4	11.8	13.5	3.2	4.3	..	6.6	7.6
500 to 600 mm	11.3	14.1	11.6	1.8	3.1	12.2	5.8	6.6
600 to 800 mm	15.1	24.5	20.5	0.5	4.6	18.2	11.6	10.7
800 to 1,200 mm	11.3	17.7	12.6	..	3.7	25.0	9.6	7.7
Above 1,200 mm	2.6	6.4	6.3	..	0.7	44.6	6.3	3.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Includes Australian Capital Territory.

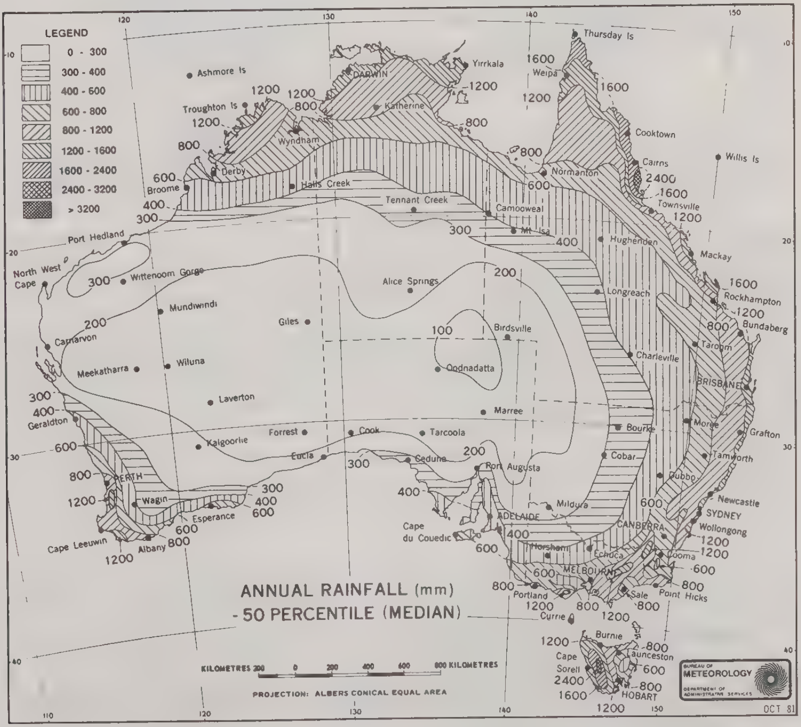

LEGEND
0 - 300
300 - 400
400 - 600
600 - 800
800 - 1200
1200 - 1600
1600 - 2400
2400 - 3200
> 3200
ANNUAL RAINFALL (mm)
- 50 PERCENTILE (MEDIAN)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
BUREAU OF METEOROLOGY
DEPARTMENT OF ADMINISTRATIVE SERVICES
OCT 81
Ashmore Is
Troughton Is
DARWIN
Katherine
Yirrkala
Thursday Is
Weipa
Cooktown
Willis Is
Cairns
Townsville
Normanton
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Mt Isa
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Bundaberg
Taroom
Carnarvon
Giles
Birdsville
Oodnadatta
Charleville
BRISBANE
Meekatharra
Wiluna
Laverton
Marree
Bourke
Moree
Grafton
Geraldton
Kalgoorlie
Forrest
Cook
Tarcoola
Eucla
Ceduna
Port Augusta
Cobar
Tamworth
Dubbo
Newcastle
SYDNEY
Wollongong
PERTH
Wagin
Esperance
Albany
Cape Leeuwin
Cape du Couedic
ADELAIDE
Mildura
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
110
120
130
140
150
10
20
30
40

FIGURE 2

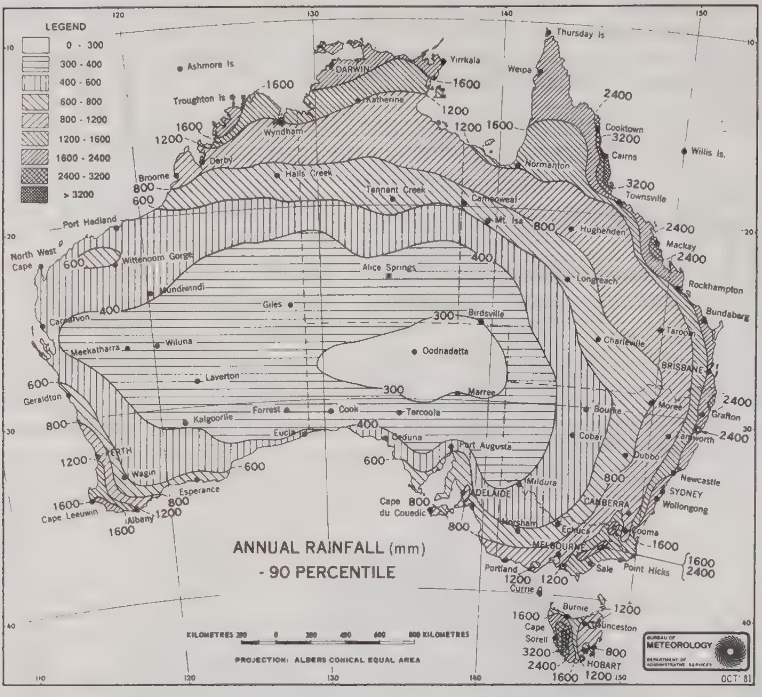

LEGEND
0 - 300
300 - 400
400 - 600
600 - 800
800 - 1200
1200 - 1600
1600 - 2400
2400 - 3200
> 3200
ANNUAL RAINFALL (mm)
- 90 PERCENTILE
Ashmore Is
Troughton Is
Darwin
Yirrkala
Weipa
Thursday Is
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Normanton
Cooktown
Cairns
Willis Is.
Townsville
Camooweal
Mt. Isa
Hughenden
Mackay
Rockhampton
Bundaberg
Port Hedland
North West Cape
Wittenoom Gorge
Alice Springs
Mundiwindi
Giles
Birdsville
Longreach
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Kalgoorlie
Eucla
Ceduna
Port Augusta
Bourke
Moree
Grafton
Tamworth
Cobar
Dubbo
PERTH
Wagin
Esperance
Cape Leeuwin
Albany
Cape du Couedic
ADELAIDE
Mildura
Newcastle
SYDNEY
Wollongong
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
BUREAU OF METEOROLOGY
DEPARTMENT OF ADMINISTRATIVE SERVICES
OCT' 81

FIGURE 3

Seasonal

As outlined above, the rainfall pattern of Australia is strongly seasonal in character with a winter rainfall regime in the south and a summer regime in the north.

The dominance of rainfall over other climatic elements in determining the growth of specific plants in Australia has led to the development of a climatic classification based on two main parameters. The parameters are median annual rainfall and seasonal rainfall incidence. Figure 4 is a reduced version of the seasonal rainfall zones arising from this classification (*see* Bureau of Meteorology publication *Climatic Atlas of Australia, 1988*).

Evaporation and the concept of rainfall effectiveness are taken into account to some extent in this classification by assigning higher median annual rainfall limits to the summer zones than the corresponding uniform and winter zones. The main features of the seasonal rainfall are:

- marked wet summer and dry winter of northern Australia;
- wet summer and relatively dry winter of south-eastern Queensland and north-eastern New South Wales;
- uniform rainfall in south-eastern Australia—much of New South Wales, parts of eastern Victoria and southern Tasmania;
- marked wet winter and dry summer of south-west Western Australia and, to a lesser extent, much of the remainder of southern Australia directly influenced by westerly circulation;
- arid area comprising about half the continent extending from the north-west coast of Western Australia across the interior and reaching the south coast at the head of the Great Australian Bight.

The seasonal rainfall classification (*Climatic Atlas of Australia, 1988*) can be further reduced to provide a simplified distribution of seven climatic zones as shown in Figure 5.

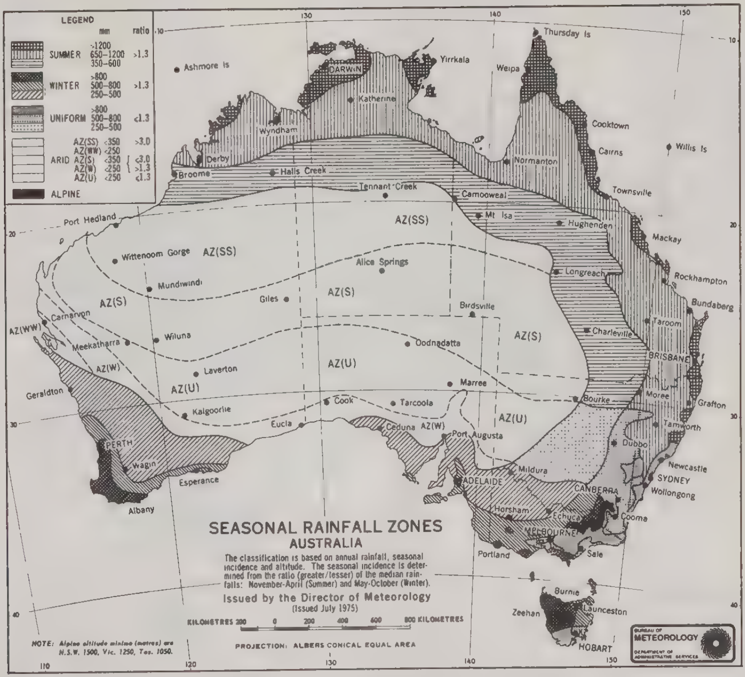

LEGEND
mm ratio
SUMMER >1200 650–1200 350–600 >1.3
WINTER >800 500–800 250–500 >1.3
UNIFORM >800 500–800 250–500 <1.3
ARID AZ(SS) <350 >3.0
AZ(WW) <250
AZ(S) <350 <3.0
AZ(W) <250 >1.3
AZ(U) <250 <1.3
ALPINE
SEASONAL RAINFALL ZONES
AUSTRALIA
The classification is based on annual rainfall, seasonal incidence and altitude. The seasonal incidence is determined from the ratio (greater/lesser) of the median rainfalls: November-April (Summer) and May-October (Winter).
Issued by the Director of Meteorology
(Issued July 1975)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
NOTE: Alpine altitude minima (metres) are N.S.W. 1500, Vic. 1250, Tas. 1050.
BUREAU OF METEOROLOGY
DEPARTMENT OF ADMINISTRATIVE SERVICES
Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Katherine
Cooktown
Wyndham
Cairns
Willis Is
Derby
Normanton
Broome
Halls Creek
Tennant Creek
Townsville
Camooweal
Port Hedland
AZ(SS)
Mt Isa
Hughenden
Mackay
Wittenoom Gorge
AZ(SS)
Alice Springs
Longreach
Rockhampton
Mundiwindi
AZ(S)
Giles
AZ(S)
Birdsville
Bundaberg
Carnarvon
Taroom
AZ(WW)
Wiluna
Charleville
AZ(S)
Meekatharra
Oodnadatta
BRISBANE
AZ(W)
Laverton
AZ(U)
Marree
Geraldton
AZ(U)
Moree
Cook
Tarcoola
Bourke
Grafton
Kalgoorlie
AZ(U)
Eucla
Ceduna
AZ(W)
Tamworth
Port Augusta
PERTH
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
SYDNEY
CANBERRA
Wollongong
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
10
20
30
40
110
120
130
140
150

FIGURE 4

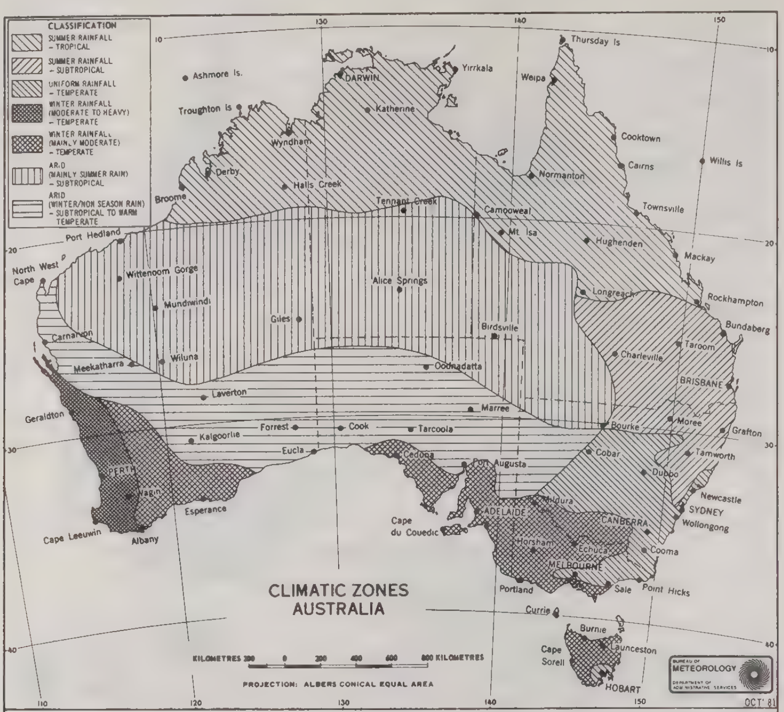
Variability

The adequate presentation of rainfall variability over an extensive geographical area is difficult. Probably the best measures are found in tables compiled for a number of individual stations in some of the Climatic Survey districts. These tables show the percentage chances of receiving specified amounts of rainfall in monthly, seasonal or annual time spans. Statistical indices of rainfall variation based on several techniques have been used to compile maps showing main features of the variability of annual rainfall over Australia.

One index for assessing the variability of annual rainfall is given by the ratio of the 90–10 percentile range to the 50 percentile (median value):

$$\text{i.e. Variability Index} = \left\{ \frac{90\text{–}10}{50} \right\} \quad \text{percentiles.}$$

Variability based on this relationship (Gaffney 1975 and Lee and Gaffney 1986) is shown in Figure 6. The region of high to extreme variability shown in Figure 6 lies mostly in the arid zones with summer rainfall incidence, AZ (S) defined on Figure 4. In the winter rainfall zones, the variability is generally low to moderate as exemplified by the south-west of Western Australia. In the tropics, random cyclone visitations cause extreme variations in rainfall from year to year: at Onslow (Western Australia), annual totals varied from 15 millimetres in 1912 to 1,085 millimetres in 1961 and, in the four consecutive years 1921 to 1924, the annual totals were 566, 69, 682 and 55 millimetres respectively. At Whim Creek (Western Australia), where 747 millimetres have been recorded in a single day, only 4 millimetres were received in the whole of 1924. Great variability can also occur in the heavy rainfall areas: at Tully (Queensland), the annual rainfalls have varied from 7,898 millimetres in 1950 to 2,486 millimetres in 1961.


CLASSIFICATION
SUMMER RAINFALL – TROPICAL
SUMMER RAINFALL – SUBTROPICAL
UNIFORM RAINFALL – TEMPERATE
WINTER RAINFALL (MODERATE TO HEAVY) – TEMPERATE
WINTER RAINFALL (MAINLY MODERATE) – TEMPERATE
ARID (MAINLY SUMMER RAIN) – SUBTROPICAL
ARID (WINTER/NON SEASON RAIN) – SUBTROPICAL TO WARM TEMPERATE
CLIMATIC ZONES AUSTRALIA
Ashmore Is.
Troughton Is
DARWIN
Yirrkala
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Thursday Is
Weipa
Cooktown
Cairns
Willis Is
Normanton
Townsville
Camooweal
Mt. Isa
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Giles
Longreach
Rockhampton
Bundaberg
Carnarvon
Birdsville
Taroom
Charleville
Wiluna
Meekatharra
Oodnadatta
BRISBANE
Laverton
Marree
Moree
Grafton
Geraldton
Forrest
Cook
Tarcoola
Bourke
Kalgoorlie
Eucla
Cobar
Tamworth
Ceduna
Port Augusta
Dubbo
PERTH
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
CANBERRA
Cape Leeuwin
Albany
Cape du Couedic
ADELAIDE
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
BUREAU OF METEOROLOGY DEPARTMENT OF ADMINISTRATIVE SERVICES
OCT' 81
10
20
30
40
110
120
130
140
150

CLASSIFICATION	SEASONAL CHARACTERISTICS SUMMER	SEASONAL CHARACTERISTICS WINTER
Summer Rainfall – Tropical	Heavy periodic rains (heavier in coastal & highland areas) Hot generally Humid in coastal areas	Generally rainless Mild to warm Dry
Summer Rainfall – Subtropical	Heavy periodic rains (heavier in coastal & highland areas) Mainly hot Humid in highlands & coastal areas	Some significant rain Mild
Uniform Rainfall – Temperate	Mainly reliable rain Warm to hot	Mainly reliable rain Cool to cold
Winter Rainfall (moderate to heavy) – Temperate	Irregular rain, mostly light Warm to hot	Reliable rain (moderate to heavy) Cool to mild
Winter Rainfall (mainly moderate) – Temperate	Mostly light irregular rain Warm to hot	Reliable rain (mainly moderate) Cool to cold
Arid (mainly summer rain) – Subtropical	Variably rain Hot to extreme Very dry	Mainly irregular light rain Mild to warm Dry
Arid (winter or non–seasonal rain) – Warm Temperate to Subtropical	Very irregular rain Hot to extreme Very dry	Variable rain, mainly light Cool to mild Dry

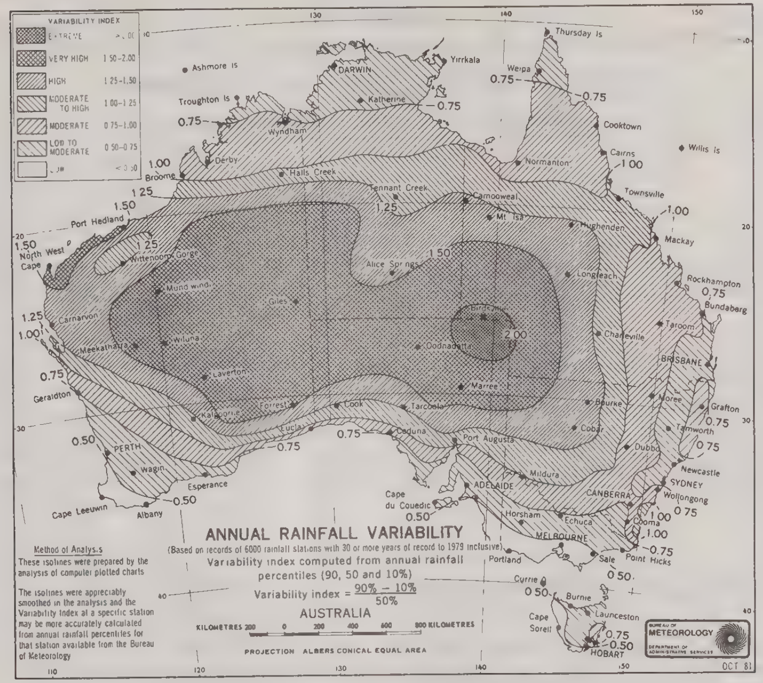
[Reference.- Climatic Atlas of Australia, Map set 5, Bureau of Meteorology 1975]

FIGURE 5

Rainday frequency

The average number of days per year with rainfall of 0.2 millimetres or more is shown in Figure 7.

The frequency of raindays exceeds 150 per year in Tasmania (with a maximum of over 200 in western Tasmania), southern Victoria, parts of the north Queensland coast and in the extreme south-west of Western Australia. Over most of the continent the frequency is less than 50 raindays per year. The area of low rainfall with high variability, extending from the north-west coast of Western Australia through the interior of the continent, has less than 25 raindays per year. In the high rainfall areas of northern Australia the number of raindays is about 80 per year, but heavier falls occur in this region than in southern regions.


VARIABILITY INDEX
EXTREME >2.00
VERY HIGH 1 50–2.00
HIGH 1 25–1.50
MODERATE TO HIGH 1 00–1 25
MODERATE 0 75–1.00
LOW TO MODERATE 0 50–0 75
LOW < 0 50
Ashmore Is
Troughton Is
DARWIN
Yirrkala
Thursday Is
Weipa
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Mt Isa
Normanton
Cooktown
Cairns
Willis Is
Townsville
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Bundaberg
Mundiwindi
Giles
Birdsville
Taroom
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
BRISBANE
Laverton
Marree
Bourke
Moree
Grafton
Geraldton
Forrest
Cook
Tarcoola
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
Port Augusta
Dubbo
PERTH
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
0.50
0.75
1.00
1.25
1.50
2.00
110
120
130
140
150
10
20
30
40
BUREAU OF METEOROLOGY
DEPARTMENT OF ADMINISTRATIVE SERVICES
OCT 81
KILOMETRES 200 0 200 400 600 800 KILOMETRES

ANNUAL RAINFALL VARIABILITY

(Based on records of 6000 rainfall stations with 30 or more years of record to 1979 inclusive)

Variability index computed from annual rainfall percentiles (90, 50 and 10%)

$$\text{Variability index} = \frac{90\% - 10\%}{50\%}$$

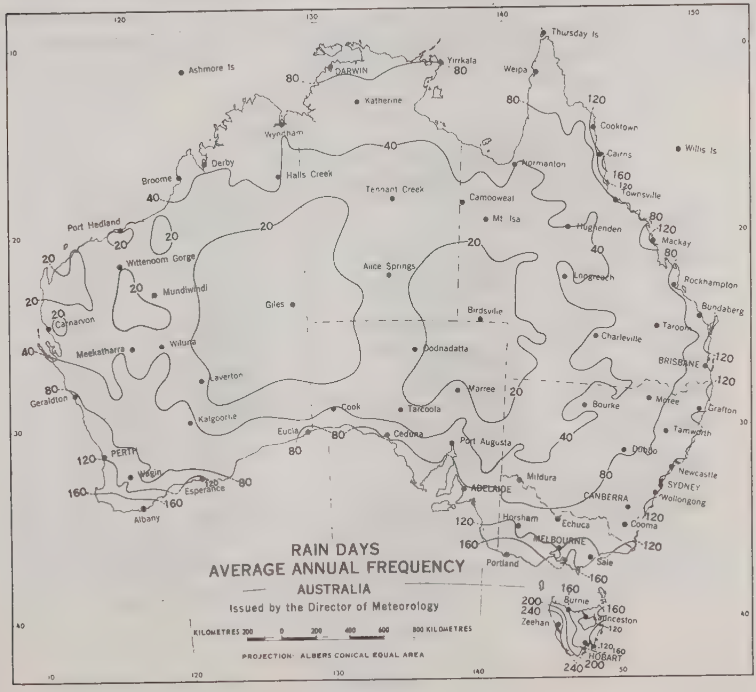
AUSTRALIA

PROJECTION ALBERS CONICAL EQUAL AREA

Method of Analysis

These isolines were prepared by the analysis of computer plotted charts

The isolines were appreciably smoothed in the analysis and the Variability Index at a specific station may be more accurately calculated from annual rainfall percentiles for that station available from the Bureau of Meteorology


Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Cooktown
Cairns
Willis Is
Derby
Halls Creek
Normanton
Broome
Tennant Creek
Camooweal
Townsville
Mt Isa
Port Hedland
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
BRISBANE
Laverton
Marree
Geraldton
Bourke
Moree
Cook
Tarcoola
Grafton
Kalgoorlie
Eucla
Ceduna
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
20
40
80
120
160
200
240
120
130
140
150
10
20
30
40
KILOMETRES 200 0 200 400 600 800 KILOMETRES

RAIN DAYS

AVERAGE ANNUAL FREQUENCY

AUSTRALIA

Issued by the Director of Meteorology

PROJECTION: ALBERS CONICAL EQUAL AREA

FIGURES 6 AND 7

Intensity

The highest rainfall intensities for some localities are shown in the table below.

HIGHEST RAINFALL INTENSITIES IN SPECIFIED PERIODS
(millimetres)
(*Source:* **Pluviograph records in Bureau of Meteorology archives)**

Station	*Period of record*	*Years of complete records*	*Period in hours*				
			1	*3*	*6*	*12*	*24*
			mm	mm	mm	mm	mm
Adelaide	1897–1979	79	69	133	141	141	141
Alice Springs	1951–1986	36	75	87	108	133	150
Brisbane	1911–1987	77	88	142	182	266	327
Broome	1948–1983	36	112	157	185	313	353
Canberra	1938–1982	37	40	57	67	76	120
Carnarvon	1956–1982	27	44	63	83	95	108
Charleville	1953–1987	35	42	66	75	111	142
Cloncurry	1953–1981	23	59	118	164	173	204
Darwin (Airport)	1953–1987	35	89	138	214	260	291
Esperance	1963–1979	15	23	45	62	68	79
Hobart	1911–1985	75	28	56	87	117	168
Meekatharra	1953–1982	30	33	67	81	99	112
Melbourne	1873–1986	100	76	83	86	97	130
Mildura	1953–1986	34	49	60	65	66	91
Perth	1946–1983	37	31	37	48	64	80
Sydney	1913–1987	71	118	194	200	244	340
Townsville	1953–1987	34	88	158	235	296	319

These figures represent intensities over only small areas around the recording points because turbulence and exposure characteristics of the measuring gauge may vary over a distance of a few metres. The highest 24-hour (9 a.m. to 9 a.m.) falls are listed below. Most of the very high 24-hour falls (above 700 millimetres) have occured in the coastal strip of Queensland, where a tropical cyclone moving close to mountainous terrain provides ideal conditions for spectacular falls.

HIGHEST DAILY RAINFALLS
(All years to date)

State	*Station*	*Date*	*Amount*
			mm
New South Wales	Dorrigo (Myrtle Street)	21.2.1954	809
	Lowanna (Yalamurra)	22.4.1974	662
Victoria	Tanybryn	22.3.1983	375
	Nowa Nowa (Wairawa)	11.3.1906	275
Queensland*	Beerwah (Crohamhurst)	3.2.1893	907
	Finch Hatton PO	18.2.1958	878
South Australia	Stansbury	18.2.1946	222
	WirrabaraForest Reserve	4.6.1978	222
Western Australia	Roebourne (Whim Creek)	3.4.1898	747
	Broome (Kilto)	4.12.1970	635
Tasmania	Cullenswood	22.7.1974	352
	Mathinna	5.4.1929	336
Northern Territory	Roper Valley Station	15.4.1963	544
	Angurugu (Groote Eylandt)	28.3.1953	513

*Note: Bellenden Ker (Top Station) has recorded a 24 hour total of 960 mm from 3 p.m. to 3 p.m. on the 3rd and 4th January 1979. The standard daily rainfall period is 9 a.m. to 9 a.m.

The highest annual rainfalls are listed by State in the following table.

HIGHEST ANNUAL RAINFALLS
(All years to date)

State	*Station*	*Year*	*Amount*
			mm
New South Wales	Tallowood Point	1950	4,540
Victoria	Falls Creek SEC	1956	3,738
Queensland	Bellenden Ker (Top Station)	1979	11,251
South Australia	Aldgate State School	1917	1,852
Western Australia	Armadale (Jarrahdale PO)	1917	2,169
Tasmania	Lake Margaret	1948	4,504
Northern Territory	Elizabeth Downs	1973	2,966

Thunderstorms and hail

A thunder-day at a given location is a calendar day on which thunder is heard at least once. Figure 8 shows isopleths (isobronts) of the average annual number of thunder-days which vary from 74 per year near Darwin to less than 10 per year over parts of the southern regions. Convectional processes during the summer wet season cause high thunderstorm incidence in northern Australia. The generally high incidence of thunder-days (40–60 annually) over the eastern upland areas is caused mainly by orographic uplift of moist air streams.

Hail, mostly of small size (less than 10 millimetres diameter), occurs with winter–spring cold frontal activity in southern Australia. Summer thunderstorms, particularly over the uplands of eastern Australia, sometimes produce large hail (greater than 10 millimetres diameter). Hail capable of piercing light gauge galvanised iron occurs at irregular intervals and sometimes causes widespread damage.

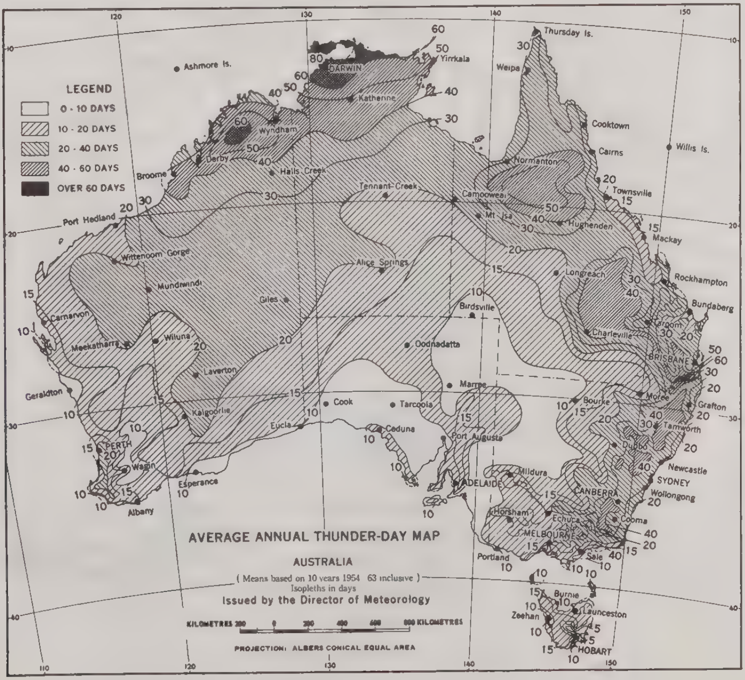

LEGEND
0 - 10 DAYS
10 - 20 DAYS
20 - 40 DAYS
40 - 60 DAYS
OVER 60 DAYS
Ashmore Is.
DARWIN
Katherine
Yirrkala
Thursday Is.
Weipa
Wyndham
Derby
Halls Creek
Broome
Port Hedland
Tennant Creek
Camooweal
Normanton
Cooktown
Cairns
Willis Is.
Townsville
Mt Isa
Hughenden
Mackay
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Bundaberg
Giles
Birdsville
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
BRISBANE
Laverton
Marree
Geraldton
Kalgoorlie
Cook
Tarcoola
Bourke
Moree
Grafton
Tamworth
Eucla
Ceduna
Port Augusta
Dubbo
PERTH
Wagin
Esperance
Albany
ADELAIDE
Mildura
CANBERRA
Newcastle
SYDNEY
Wollongong
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
AVERAGE ANNUAL THUNDER-DAY MAP
AUSTRALIA
(Means based on 10 years 1954 63 inclusive)
Isopleths in days
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40

FIGURE 8

Snow

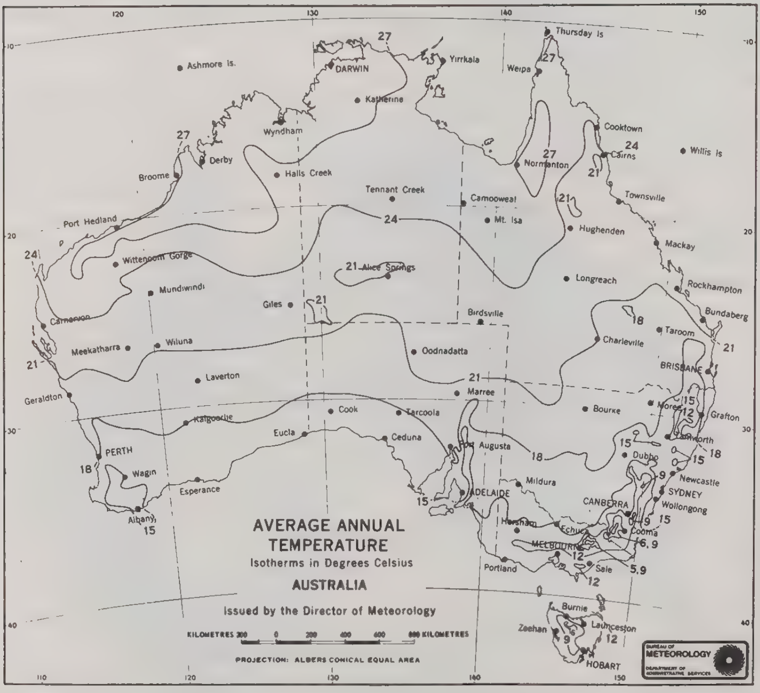
Generally, snow covers much of the Australian Alps above 1,500 metres for varying periods from late autumn to early spring. Similarly, in Tasmania the mountains are covered fairly frequently above 1,000 metres in these seasons. The area, depth and duration are highly variable. No snow falls in the altitude range of 500-1,000 metres in some years. Snowfalls at levels below 500 metres are occasionally experienced in southern Australia, particularly in the foothill areas of Tasmania and Victoria, but falls are usually light and short lived. In some seasons, parts of the eastern uplands above 1,000 metres from Victoria to south-eastern Queensland have been covered with snow for several weeks. In ravines around Mount Kosciusko (2,228 metres) small areas of snow may persist through summer but there are no permanent snowfields.

Temperature

Average temperatures

Average annual air temperatures, as shown in Figure 9, range from 28°C along the Kimberley coast in the extreme north of Western Australia to 4°C in the alpine areas of south-eastern Australia. Although annual temperature may be used for broad comparisons, monthly temperatures are required for detailed analyses.

July is the month with the lowest average temperature in all parts of the continent. The months with the highest average temperature are January or February in the south and December in the north (except in the extreme north and north-west where it is November). The slightly lower temperatures of mid summer in the north are due to the increase in cloud during the wet season.


AVERAGE ANNUAL
TEMPERATURE
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
BUREAU OF METEOROLOGY DEPARTMENT OF ADMINISTRATIVE SERVICES
110
120
130
140
150
10
20
30
40
Ashmore Is.
DARWIN
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Port Hedland
Wittenoom Gorge
Mundiwindi
Giles
Alice Springs
Carnarvon
Meekatharra
Wiluna
Laverton
Geraldton
Kalgoorlie
Cook
Eucla
PERTH
Wagin
Esperance
Albany
Yirrkala
Weipa
Thursday Is
Cooktown
Cairns
Willis Is
Normanton
Camooweal
Mt. Isa
Townsville
Hughenden
Mackay
Longreach
Rockhampton
Bundaberg
Birdsville
Taroom
Charleville
Oodnadatta
BRISBANE
Marree
Moree
Bourke
Grafton
Tarcoola
Ceduna
Port Augusta
Tamworth
Dubbo
Newcastle
SYDNEY
Wollongong
Mildura
ADELAIDE
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
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9
6.9
5.9
6

FIGURE 9

Average monthly maxima

Maps of average maximum and minimum temperatures for the months of January and July are shown in Figures 10 to 13 inclusive.

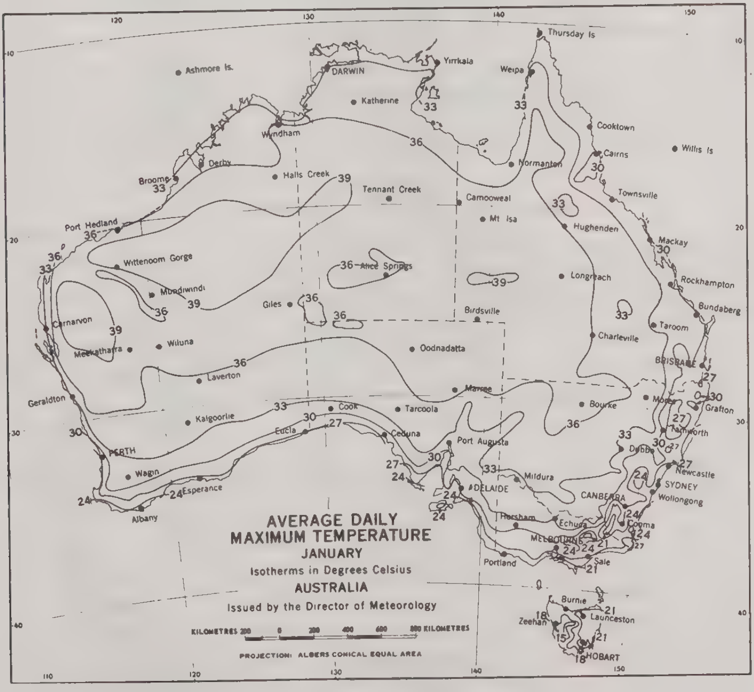
In January, average maximum temperatures exceed 35°C over a vast area of the interior and exceed 40°C over appreciable areas of the north-west. The consistently hottest part of Australia in terms of summer maxima is around Marble Bar in Western Australia (150 kilometres south-east of Port Hedland) where the average is 41°C and daily maxima during summer may exceed 40°C consecutively for several weeks at a time.

The marked gradients of isotherms of maximum temperature in summer in coastal areas, particularly along the south and west coasts, are due to the penetration inland of fresh sea breezes initiated by the sharp temperature discontinuties between the land and sea surfaces. There are also gradients of a complex nature in south-east coastal areas caused primarily by the uplands.

In July, a more regular latitudinal distribution of average maxima is evident. Maxima range from 30°C near the north coast to 5°C in the alpine areas of the south-east.

Average monthly minima

In January, average minima range from 27°C on the north-west coast to 5°C in the alpine areas of the south-east. In July, average minima fall below 5°C in areas south of the tropics (away from the coasts). Alpine areas record the lowest temperatures; the July average is as low as –5°C.


120
130
140
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20
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40
110
Thursday Is
Ashmore Is.
DARWIN
Yirrkala
Weipa
Katherine
33
33
Cooktown
Wyndham
36
Cairns
Willis Is
30
Derby
Normanton
Broome
33
Halls Creek
39
Tennant Creek
Camooweal
33
Townsville
Mt Isa
Port Hedland
36
Hughenden
Mackay
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36
33
Wittenoom Gorge
36
Alice Springs
Longreach
Rockhampton
Mundiwindi
39
39
Giles
36
Bundaberg
36
36
Birdsville
33
Carnarvon
Taroom
39
Charleville
Meekatharra
Wiluna
Oodnadatta
36
BRISBANE
Laverton
27
Marree
Moree
30
Geraldton
Bourke
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Grafton
33
Cook
Tarcoola
Kalgoorlie
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33
Tamworth
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Eucla
Ceduna
Dubbo
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27
PERTH
Port Augusta
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Wagin
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Mildura
Newcastle
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SYDNEY
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24 Esperance
ADELAIDE
CANBERRA
Wollongong
Albany
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Horsham
Echuca
Cooma
MELBOURNE
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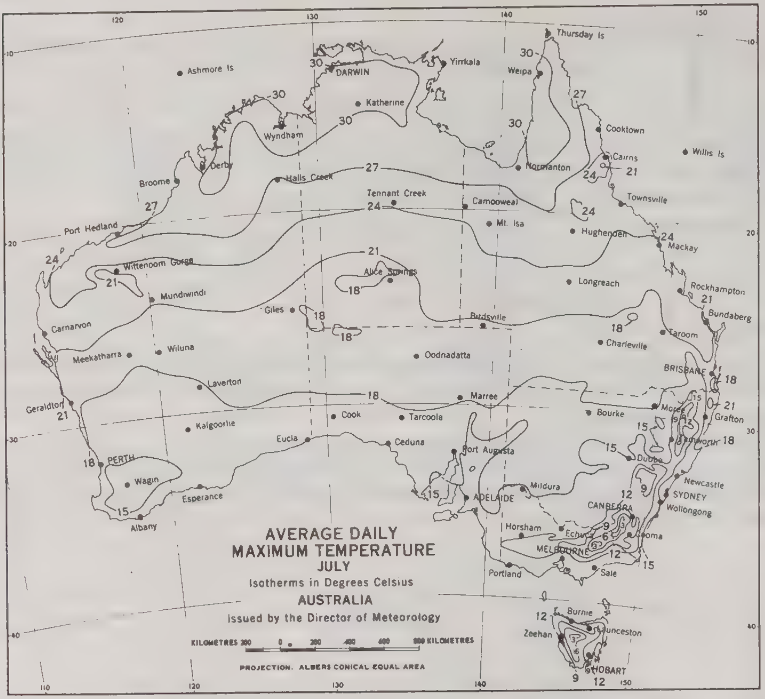
Portland
Sale
21
Burnie
21
18
Zeehan
Launceston
15
21
18 HOBART
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA

AVERAGE DAILY
MAXIMUM TEMPERATURE
JANUARY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology

FIGURE 10


AVERAGE DAILY
MAXIMUM TEMPERATURE
JULY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION. ALBERS CONICAL EQUAL AREA
Thursday Is
Ashmore Is
DARWIN
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Weipa
Katherine
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Willis Is
Cairns
Derby
Broome
Halls Creek
Normanton
Townsville
Tennant Creek
Camooweal
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Mackay
Port Hedland
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
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Charleville
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Grafton
Kalgoorlie
Cook
Tarcoola
Tamworth
Eucla
Ceduna
Port Augusta
Dubbo
PERTH
Wagin
Newcastle
Esperance
Mildura
SYDNEY
ADELAIDE
Wollongong
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
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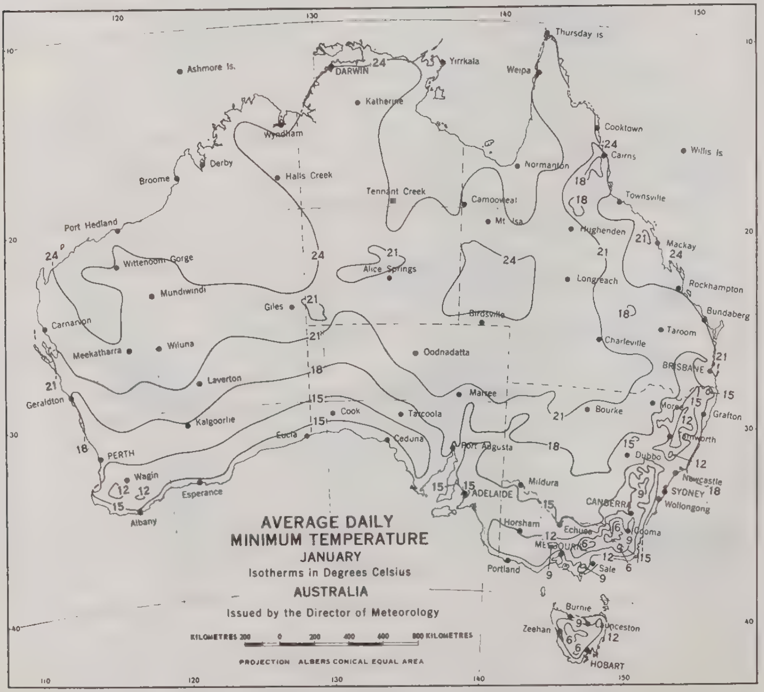
AVERAGE DAILY
MINIMUM TEMPERATURE
JANUARY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Thursday Is
Ashmore Is.
DARWIN
Yirrkala
Weipa
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Cooktown
Willis Is
Cairns
Derby
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Normanton
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Tennant Creek
Camooweal
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Hughenden
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Port Hedland
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
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Bundaberg
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Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
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Geraldton
Bourke
Moree
Grafton
Kalgoorlie
Cook
Tarcoola
Tamworth
Eucla
Ceduna
Port Augusta
Dubbo
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Wagin
Newcastle
Esperance
Mildura
SYDNEY
ADELAIDE
Wollongong
CANBERRA
Albany
Horsham
Echuca
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MELBOURNE
Portland
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Zeehan
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FIGURES 11 AND 12

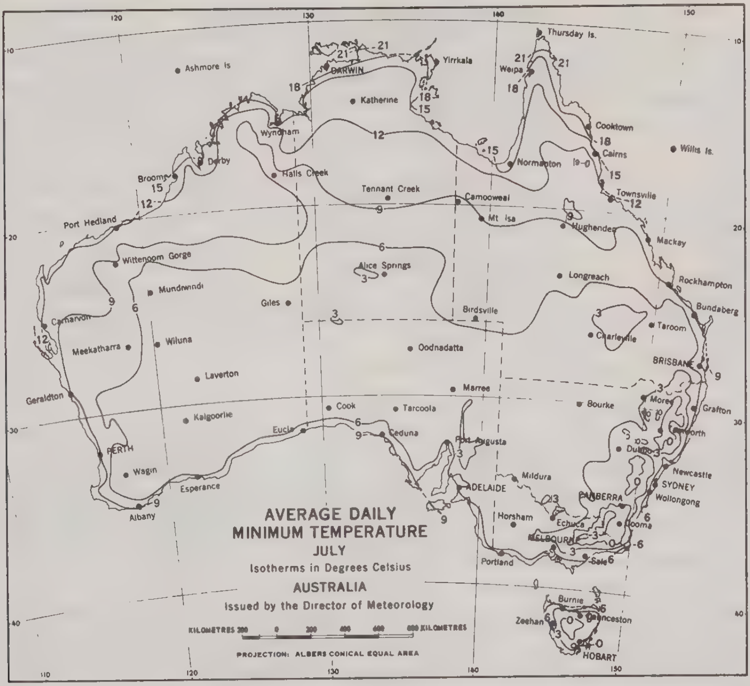
AVERAGE DAILY
MINIMUM TEMPERATURE
JULY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is.
Ashmore Is
DARWIN
Yirrkala
Weipa
Katherine
Cooktown
Cairns
Willis Is.
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Normanton
Townsville
Camooweal
Mt Isa
Hughenden
Mackay
Port Hedland
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Meekatharra
Wiluna
Charleville
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Port Augusta
Tamworth
Dubbo
PERTH
Wagin
Mildura
Newcastle
SYDNEY
Wollongong
Esperance
ADELAIDE
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
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FIGURE 13

Extreme maxima

Temperatures have exceeded 45°C at nearly all inland stations more than 150 kilometres from the coast and at many places on the north-west and south coasts. Temperatures have exceeded 50°C at some inland stations and at a few near the coast. It is noteworthy that Eucla on the south coast has recorded 50.7°C, the highest temperature in Western Australia. This is due to the long trajectory over land of hot north-west winds from the Marble Bar area. Although the highest temperature recorded in Australia was 53.1°C at Cloncurry (Queensland), more stations have exceeded 50°C in western New South Wales than in other areas due to the long land trajectory of hot winds from the north-west interior of the continent.

Extreme maximum temperatures recorded at selected stations, including the highest recorded in each State, are shown in the following table.

EXTREME MAXIMUM TEMPERATURES
(All years to date)

Station	*°C*	*Date*	*Station*	*°C*	*Date*
New South Wales—			Western Australia—		
Bourke	52.8	17.1.1877	Eucla	50.7	22.1.1906
Wilcannia	50.0	11.1.1939	Mundrabilla	49.8	3.1.1979
Menindee	49.7	10.1.1939	Forrest	49.8	13.1.1979
Victoria—			Madura	49.4	7.1.1971
Mildura	50.8	6.1.1906	Tasmania—		
Swan Hill	49.4	18.1.1906	Bushy Park	40.8	26.12.1945
Queensland—			Hobart	40.8	4.1.1976
Cloncurry	53.1	16.1.1889	Northern Territory—		
Winton	50.7	14.12.1888	Finke	48.3	2.1.1960
Birdsville	49.5	24.12.1972	Jervois	47.5	3.1.1978
South Australia—			Australian Capital Territory—		
Oodnadatta	50.7	2.1.1960	Canberra (Acton)	42.8	11.1.1939
Marree	49.4	2.1.1960			
Whyalla	49.4	2.1.1960			

Extreme minima

The lowest temperatures in Australia have been recorded in the Snowy Mountains, where Charlotte Pass (elevation 1,760 metres) has recorded –22.2°C on 14 July 1945 and 22 August 1947. Temperatures have fallen below –5°C at most inland places south of the tropics and at some places within a few kilometres of southern coasts. At Eyre, on the south coast of Western Australia, a minimum temperature of –4.3°C has been recorded, and at Swansea, on the east coast of Tasmania, the temperature has fallen as low as –5.0°C.

In the tropics, extreme minima below 0°C have been recorded at many places away from the coasts—as far north as Herberton, Queensland (–5.0°C). Even very close to the tropical coastline, temperatures have fallen to 0°C, a low recording being –0.8°C for Mackay.

The next table shows extreme minimum temperatures recorded at specified stations, including the lowest recorded in each State.

EXTREME MINIMUM TEMPERATURES
(All years to date)

Station	*°C*	*Date*	*Station*	*°C*	*Date*
New South Wales—			Western Australia—		
Charlotte Pass	–22.2	14.7.1945	Booylgoo	–6.7	12.7.1969
		22.8.1947	Wandering	–5.7	1.6.1964
Kiandra	–20.6	2.8.1929	Tasmania—		
Perisher Valley	–19.5	23.7.1979	Shannon	–13.0	30.6.1983
Victoria—			Butlers Gorge	–13.0	30.6.1983
Mount Hotham	–12.8	13.8.1947	Tarraleah	–13.0	30.6.1983
Omeo	–11.7	15.6.1965	Northern Territory—		
Hotham Heights	–11.1	15.8.1968	Alice Springs	–7.5	12.7.1976
Queensland—			Tempe Downs	–6.9	24.7.1971
Stanthorpe	–11.0	4.7.1895	Australian Capital Territory—		
Warwick	–10.6	12.7.1965	Gudgenby	–14.6	11.7.1971
Mitchell	–9.4	15.8.1979			
South Australia—					
Yongala	–8.2	20.7.1976			
Yunta	–7.7	16.7.1976			
Ernabella	–7.6	19.7.1983			

Heat waves

Periods with a number of successive days having a temperature higher than 40°C are relatively common in summer over parts of Australia. With the exception of the north-west coast of Western Australia, however, most coastal areas rarely experience more than three successive days of such conditions. The frequency increases inland, and periods of up to ten successive days have been recorded at many inland stations. This figure increases in western Queensland and north-west Western Australia to more than twenty days in places. The central part of the Northern Territory and the Marble Bar–Nullagine area of Western Australia have recorded the most prolonged heat waves. Marble Bar is the only station in the world where temperatures of more than 37.8°C (100°F) have been recorded on as many as 161 consecutive days (30 October 1923–7 April 1924).

Heat waves are experienced in the coastal areas from time to time. During 11–14 January 1939, for example, a severe heat wave affected south-eastern Australia: Adelaide had a record of 47.6°C on the 12th, Melbourne a record of 45.6°C on the 13th and Sydney a record of 45.3°C on the 14th.

The Kimberley district of Western Australia is the consistently hottest part of Australia in terms of annual average maximum temperature. Wyndham, for example, has an annual average maximum of 35.6°C.

Frost

Frost can cause serious losses of agricultural crops, and numerous climatic studies have been made in Australia relating to specific crops cultivated in local areas.

Under calm conditions, overnight temperatures at ground level are often as much as 5°C lower than those measured in the instrument screen (base height 1.1 metre) and differences of 10°C have been recorded. Only a small number of stations measure minima at ground level, the lowest recordings being −15.1°C at Canberra and −11.0°C at Stanthorpe (Queensland). Lower readings may be recorded in alpine areas.

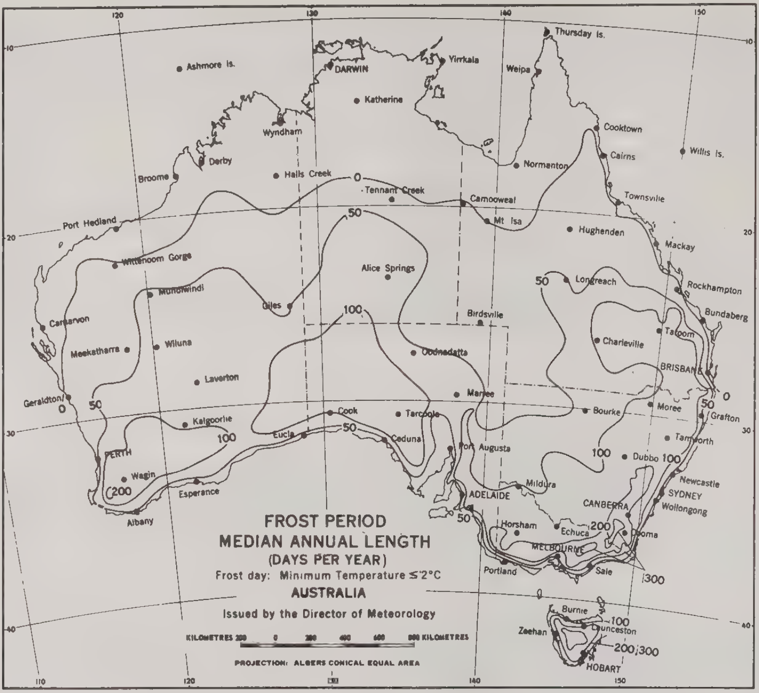
Frost frequency depends on location and orography, and even on minor variations in the contour of the land. The parts of Australia which are most subject to frost are the eastern uplands from north-eastern Victoria to the western Darling Downs in southern Queensland. Most stations in this region experience more than ten nights a month with readings of 0°C (or under) for three to five months of the year. On Tasmania's Central Plateau similar conditions occur for three to six months of the year. Frosts may occur within a few miles of the coasts except in the Northern Territory and most of the north Queensland coasts.

Regions in which frosts may occur at any time of the year comprise most of Tasmania, large areas of the tablelands of New South Wales, much of inland Victoria, particularly the north-east, and a small part of the extreme south-west of Western Australia. Over most of the interior of the continent, and on the highlands of Queensland as far north as the Atherton Plateau, frosts commence in April and end in September. Minimum temperatures below 0°C are experienced in most of the subtropical interior in June and July.

The length of the frost period for the year is taken as the number of days between the first and last recording of an air temperature of 2°C or less. The median duration of the frost period in days per year is shown in Figure 14.

The median frost period over the continent varies from over 200 days per year in the south-eastern uplands areas south of the Hunter Valley, to zero days in nothem Australia. In the southern regions of the continent, the annual frost period generally decreases from about 100 days inland to below 50 days towards the coast. However, there are appreciable spatial variations depending mainly on local orography. In Tasmania the frost period exceeds 300 days on the uplands and decreases to 100 days near the coast.

More strictly, a frost is taken as corresponding to a minimum screen temperature of 2.2°C or less. A light frost is said to occur when the screen minimum temperature is greater than 0°C but less than or equal to 2.2°C. A heavy frost corresponds to a minimum temperature of 0°C or less.


FROST PERIOD
MEDIAN ANNUAL LENGTH
(DAYS PER YEAR)
Frost day: Minimum Temperature ≤2°C
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is.
Ashmore Is.
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Cooktown
Cairns
Willis Is.
Derby
Broome
Halls Creek
Tennant Creek
Normanton
Townsville
Camooweal
Mt Isa
Port Hedland
Hughenden
Mackay
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Giles
Birdsville
Bundaberg
Carnarvon
Charleville
Taroom
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Bourke
Moree
Grafton
Kalgoorlie
Cook
Tarcoola
Eucla
Ceduna
Tamworth
Port Augusta
Dubbo
PERTH
Wagin
Mildura
Newcastle
ADELAIDE
SYDNEY
Esperance
CANBERRA
Wollongong
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
0
50
100
200
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110
120
130
140
150

FIGURE 14

The table below includes the average annual frequency of minima of 2.2°C or less for a wide selection of stations, particularly those prone to frosts. These data show the high spatial variability of frost frequency across Australia. The south-eastern alpine areas, as represented by Kiandra (elevation 1,400 metres), have a frequency exceeding 200. At Kalgoorlie the average annual frequency is 20.4 days, at Alice Springs 32.7, Charleville 32.3, Canberra 101.1 and Essendon Airport (Melbourne) 14.2.

FROST FREQUENCY

Station	*Period of record*	*Altitude (metres)*	*Average number of frosty nights ≤2.2°C*	*Average number of heavy frosts ≤0°C*
Adelaide Airport	1956–85	6.0	6.2	0.9
Alice Springs	1942–85	545.0	32.7	11.9
Ballan	1957–68	442.0	62.3	20.5
Birdsville	1957–83	43.0	4.7	0.4
Brisbane Airport	1950–85	6.0	0.2	0.0
Canberra Airport	1940–85	571.0	101.1	63.6
Ceduna Airport	1943–85	24.0	18.4	4.2
Charleville Airport	1943–85	306.0	32.3	12.9
Essendon Airport (Melbourne)	1940–70	86.0	14.2	2.6
Hobart	1949–85	55.2	17.1	1.7
Kalgoorlie Airport	1943–84	360.0	20.4	4.6
Kiandra	1957–68	1,395.4	228.3	176.7
Mount Gambier Airport	1943–85	63.0	26.0	6.9
Perth Airport	1945–86	20.0	2.8	0.1
Walgett	1957–84	131.0	23.3	5.7

The regions of mainland Australia most prone to heavy frosts are the eastern uplands and adjacent areas extending from Victoria through New South Wales to south-eastern Queensland. Stations above 1,000 metres in altitude in the southern parts of these uplands have more than 100 heavy frosts annually, and in the upland areas below 1,000 metres the annual frequency ranges from 100 to about 20. Over the remainder of southern Queensland, New South Wales and Victoria, although there are great spatial variations, the average annual frequency of heavy frosts typically ranges from about 20 inland to 10 towards the coast.

In Tasmania, uplands above 1,000 metres have more than 100 heavy frosts annually and, in neighbouring areas, the frequency is about 100 decreasing to 20 towards the coasts. Even some coastal stations have a relatively high frequency (Swansea, for example, has 15.7).

The southern half of Westen Australia, the whole of South Australia, and the Alice Springs district of the Northern Territory experience heavy frosts. Differences in annual frequencies between places are great but in general the frequency is about 10 inland decreasing towards the coasts. Some places average more than 20 heavy frosts annually, notably Wandering, Western Australia (21.5) and Yongala, South Australia (41.8). At Alice Springs the annual average frequency is 11.9.

Humidity

Australia is a dry continent in terms of the water vapour content or humidity of the air and this element may be compared with evaporation to which it is related. Humidity is measured at Bureau of Meteorology observational stations by a pair of dry and wet bulb thermometers mounted in a standard instrument screen. These measurements enable moisture content to be expressed by a number of parameters, the most commonly known being relative humidity.

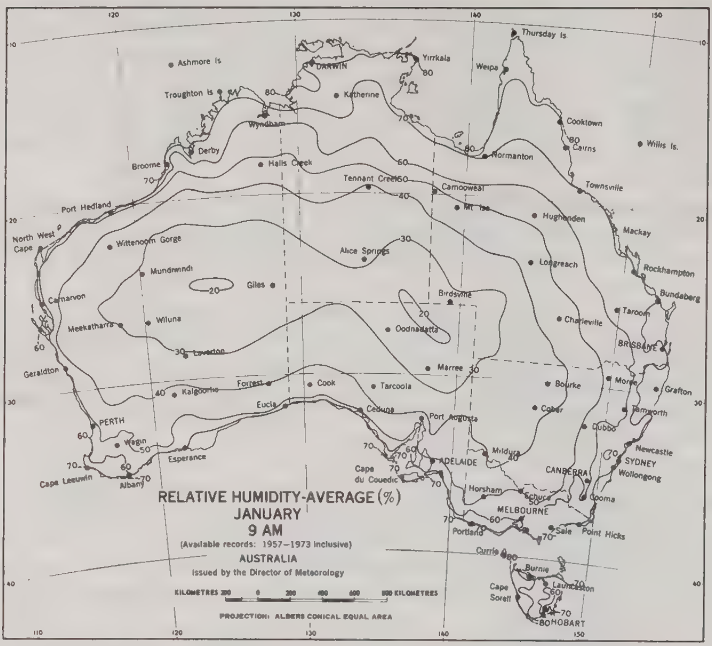
Relative humidity at a given temperature is the ratio (expressed as a percentage) of actual vapour pressure to the saturated vapour pressure at that temperature. As a single measure of human discomfort, relative humidity is of limited value because it must be related to the temperature at the time.

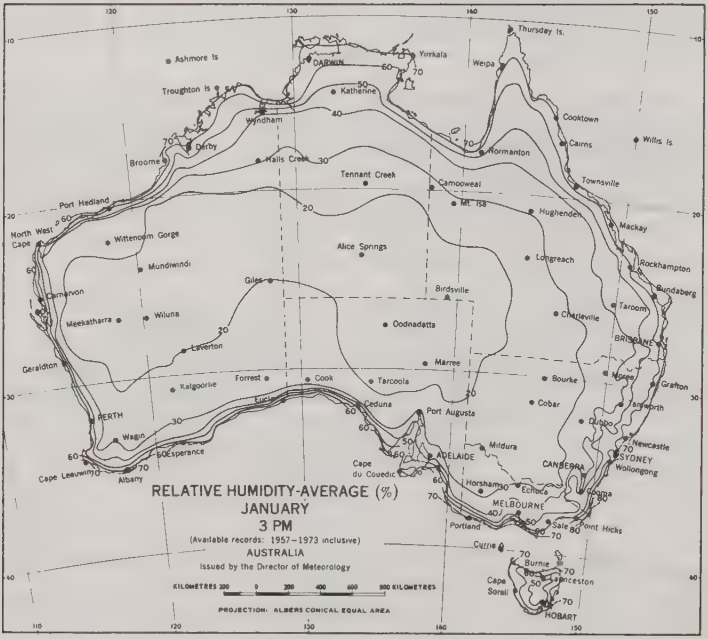
Since the temperature at 9 a.m. approximates the mean temperature for the day (24 hours), the relative humidity at 9 a.m. may be taken as an estimate of the mean relative humidity for the day. Relative humidity at 3 p.m. occurs around the warmest part of the day on the average and is representative of the lowest daily values.

Relative humidity isopleths for January and July at 9 a.m. and 3 p.m. shown in Figures 15–18 are extracted from the *Climatic Atlas of Australia, 1988.*

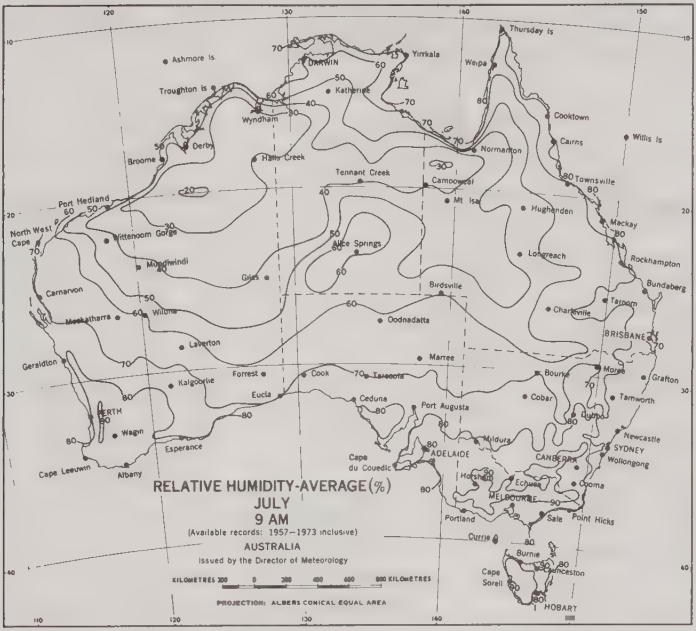
The main features of the relative humidity pattern are:

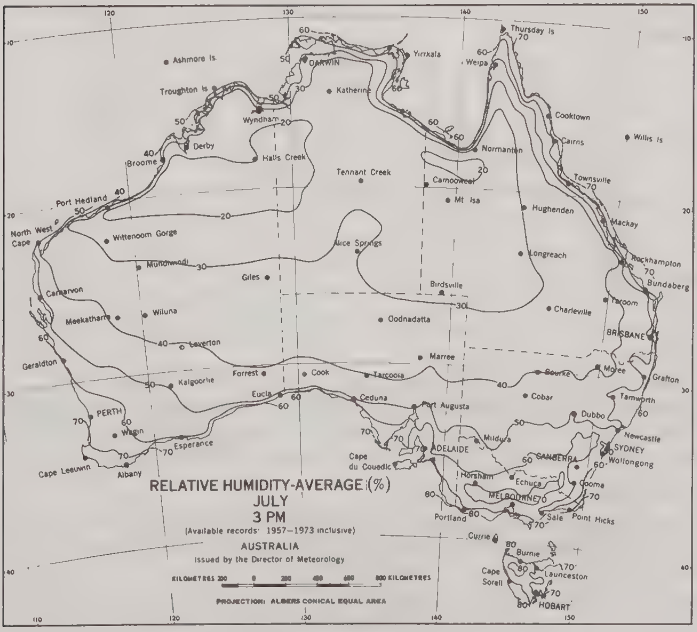
- over the interior of the continent there is a marked dryness during most of the year, notably towards the northern coast in the dry season (May–October);
- the coastal fringes are comparatively moist, although this is less evident along the north-west coast of Western Australia where continental effects are marked;
- in northern Australia, the highest values occur during the summer wet season (December–February) and the lowest during the winter dry season(June–August);
- in most of southern Australia the highest values are experienced in the winter rainy season (June–August) and the lowest in summer (December–February)


RELATIVE HUMIDITY-AVERAGE (%)
JANUARY
9 AM
(Available records: 1957–1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Troughton Is
Katherine
Wyndham
Cooktown
Cairns
Willis Is.
Derby
Normanton
Broome
Halls Creek
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt Isa
Hughenden
North West Cape
Wittenoom Gorge
Mackay
Alice Springs
Longreach
Mundiwindi
Rockhampton
Giles
Bundaberg
Carnarvon
Birdsville
Taroom
Wiluna
Meekatharra
Charleville
Oodnadatta
BRISBANE
Laverton
Geraldton
Marree
Bourke
Moree
Forrest
Cook
Tarcoola
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Newcastle
SYDNEY
Wollongong
Esperance
Mildura
ADELAIDE
CANBERRA
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
10 20 30 40 50 60 70 80
110 120 130 140 150


RELATIVE HUMIDITY-AVERAGE (%)
JANUARY
3 PM
(Available records: 1957–1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is.
Ashmore Is
DARWIN
Yirrkala
Weipa
Troughton Is
Katherine
Wyndham
Cooktown
Cairns
Willis Is
Derby
Normanton
Broome
Halls Creek
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt Isa
Hughenden
North West Cape
Wittenoom Gorge
Mackay
Alice Springs
Longreach
Mundiwindi
Rockhampton
Giles
Bundaberg
Carnarvon
Birdsville
Taroom
Wiluna
Meekatharra
Charleville
Oodnadatta
BRISBANE
Laverton
Geraldton
Marree
Bourke
Moree
Forrest
Cook
Tarcoola
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Newcastle
SYDNEY
Wollongong
Esperance
Mildura
ADELAIDE
CANBERRA
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
20 30 40 50 60 70 80
110 120 130 140 150

FIGURES 15 AND 16


RELATIVE HUMIDITY-AVERAGE (%)
JULY
9 AM
(Available records: 1957—1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is
Troughton Is
DARWIN
Yirrkala
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Mt Isa
Normanton
Weipa
Thursday Is
Cooktown
Cairns
Willis Is
Townsville
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Giles
Longreach
Rockhampton
Bundaberg
Carnarvon
Meekatharra
Wiluna
Birdsville
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Wagin
Port Augusta
Dubbo
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
Cape Leeuwin
Albany
Cape du Couedic
ADELAIDE
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Cape Sorell
Launceston
HOBART


RELATIVE HUMIDITY-AVERAGE (%)
JULY
3 PM
(Available records: 1957—1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is
Troughton Is
DARWIN
Yirrkala
Weipa
Thursday Is
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Mt Isa
Normanton
Cooktown
Cairns
Willis Is
Townsville
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Giles
Longreach
Rockhampton
Bundaberg
Carnarvon
Meekatharra
Wiluna
Birdsville
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Wagin
Port Augusta
Dubbo
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
Cape Leeuwin
Albany
Cape du Couedic
ADELAIDE
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Cape Sorell
Launceston
HOBART

FIGURES 17 AND 18

The tables below contain average relative humidity at 9 a.m. and 3 p.m. for each month and the year, for selected stations. Humidity values for the capital cities are contained in the detailed capital city statistical tables found further on.

AVERAGE RELATIVE HUMIDITY AT 9 A.M.
(per cent)

Station	*Period of record*	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Year*
Alice Springs	1941–87	34	39	40	45	56	65	59	47	35	31	29	29	42
Armidale	1907–87	63	69	71	73	78	80	77	71	61	57	56	57	68
Broome	1939–87	71	74	69	55	49	49	47	45	48	53	58	64	57
Carnarvon	1945–87	58	57	56	57	59	69	69	64	54	51	54	57	59
Ceduna	1939–87	53	59	61	66	76	81	80	75	64	54	51	51	64
Charleville	1942–87	47	53	52	53	63	71	66	56	44	40	37	39	52
Cloncurry	1939–75	52	60	52	45	47	51	45	37	31	31	31	40	43
Esperance	1969–87	58	60	64	70	74	77	77	74	68	61	60	57	67
Halls Creek	1944–87	51	56	44	34	34	34	31	25	22	25	30	39	36
Kalgoorlie	1939–87	45	51	53	59	68	74	74	67	54	48	44	43	56
Katanning	1957–87	57	64	66	75	83	88	88	86	80	68	59	56	72
Kiandra	1907–74	61	66	72	79	84	89	90	87	76	67	62	62	75
Marble Bar	1937–87	44	47	40	33	39	42	39	32	27	26	26	33	36
Mildura	1946–87	50	55	59	70	82	88	86	79	67	58	52	48	66
Mundiwindi	1938–81	31	35	34	37	44	53	49	39	28	23	22	23	35
Thursday Island	1950–87	84	86	85	82	82	81	80	78	75	73	73	77	80
Townsville	1940–87	72	76	74	69	68	67	67	63	60	61	63	66	67

AVERAGE RELATIVE HUNIDITY AT 3 P.M.
(per cent)

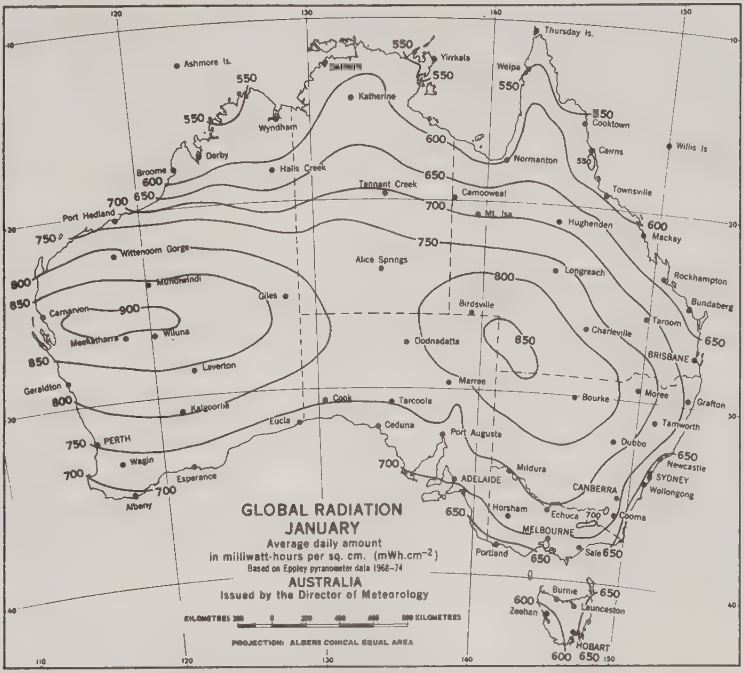
Station	*Period of record*	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Year*
Alice Springs	1941–87	20	23	23	25	31	34	30	24	20	19	18	18	23
Armidale	1909–87	44	47	47	48	52	56	52	47	42	42	40	41	46
Broome	1939–87	65	66	59	43	38	36	34	33	42	52	57	60	32
Carnarvon	1945–87	59	58	57	56	53	53	52	52	52	53	55	58	55
Ceduna	1939–87	42	45	45	45	51	54	55	50	45	43	40	42	46
Charleville	1942–87	28	33	32	31	36	39	35	29	24	24	21	23	29
Cloncurry	1939–75	32	38	34	29	29	30	26	22	20	19	19	24	27
Esperance	1969–87	56	58	58	57	58	60	58	57	57	56	57	57	57
Halls Creek	1944–87	34	38	31	25	27	25	22	19	17	18	20	26	25
Kalgoorlie	1939–87	24	29	31	37	43	49	47	40	31	27	25	23	33
Katanning	1957–87	30	34	37	48	56	66	66	62	56	44	36	30	46
Kiandra	1912–74	50	52	55	61	70	75	78	73	62	58	54	51	62
Marble Bar	1937–87	25	28	24	23	26	27	25	21	18	17	16	19	23
Mildura	1946–87	26	30	33	40	50	56	54	47	39	34	29	26	39
Mundiwindi	1938–81	19	22	21	22	27	32	28	22	15	13	13	14	20
Thursday Island	1951–87	78	81	79	74	71	69	67	65	65	65	65	71	71
Townsville	1940–87	66	67	65	60	57	52	51	51	52	55	57	60	58

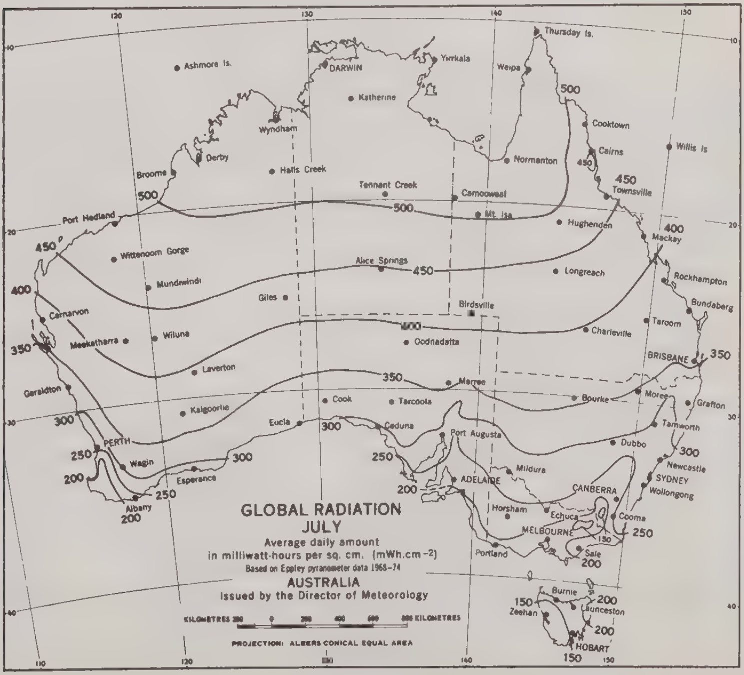
Relative humidity is dependent on temperature and if the water content of the air remains constant, relative humidity decreases with increasing temperature. For instance Perth, for January, has a mean 9 a.m. relative humidity of 50 per cent, but for 3 p.m., when the mean temperature is higher, the mean relative humidity is 41 per cent.

Global radiation

Global (short wave) radiation includes that radiation energy reaching the ground directly from the sun and that received indirectly from the sky, scattered downwards by clouds, dust particles, etc.

Figures 19 and 20 show the average global radiation for the months of January and July.


GLOBAL RADIATION
JANUARY
Average daily amount
in milliwatt-hours per sq. cm. (mWh.cm^{-2})
Based on Eppley pyranometer data 1968–74
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is.
Ashmore Is.
Yirrkala
Weipa
Katherine
Wyndham
Derby
Cooktown
Cairns
Willis Is
Normanton
Halls Creek
Broome
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt. Isa
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Wiluna
Meekatharra
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Geraldton
Kalgoorlie
Cook
Tarcoola
Bourke
Moree
Grafton
Eucla
Ceduna
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Mildura
Newcastle
SYDNEY
Wollongong
Esperance
ADELAIDE
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
550
600
650
700
750
800
850
900
110
120
130
140
150
10
20
30
40


GLOBAL RADIATION
JULY
Average daily amount
in milliwatt-hours per sq. cm. (mWh.cm^{-2})
Based on Eppley pyranometer data 1968–74
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is.
Ashmore Is.
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Derby
Cooktown
Cairns
Willis Is
Normanton
Halls Creek
Broome
Tennant Creek
Camooweal
Townsville
Port Hedland
Mt. Isa
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Wiluna
Meekatharra
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Geraldton
Kalgoorlie
Cook
Tarcoola
Bourke
Moree
Grafton
Eucla
Ceduna
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Mildura
Newcastle
SYDNEY
Wollongong
Esperance
ADELAIDE
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
150
200
250
300
350
400
450
500
110
120
130
140
150
10
20
30
40

FIGURES 19 AND 20

A high correlation exists between daily global radiation (Figures 19 and 20) and daily hours of sunshine (Figures 21 and 22). On the north-west coast around Port Hedland, where average daily global radiation is the highest for Australia (640 milliwatt hours), average daily sunshine is also highest, being approximately 10 hours. Sunshine is more dependent on variations in cloud coverage than is global radiation, since the latter includes diffuse radiation from the sky as well as direct radiation from the sun. An example is Darwin where, in the dry month of July, sunshine approaches twice that of the wet (cloudy) month of January but global radiation figures for the two months are comparable.

Sunshine

Sunshine as treated here refers to bright or direct sunshine. Australia receives relatively large amounts of sunshine although seasonal cloud formations have a notable effect on its spatial and temporal distribution. Cloud cover reduces both incoming and outgoing radiation and thus affects sunshine, air temperature and other climatic elements at the earth's surface. Sunshine amounts at Australian capitals are included in the climatic tables at the end of this chapter.

Average daily sunshine (hours) in January and July based on all available data to August 1974 is shown in Figures 21 and 22. Sunshine for April and October and annual amounts are included in the *Climatic Atlas of Australia, 1988*. In areas where there is a sparsity of data, estimates of sunshine derived from cloud data are used. Most of the continent receives more than 3,000 hours of sunshine a year, or nearly 70 per cent of the total possible. In central Australia and the mid-west coast of Western Australia totals slightly in excess of 3,500 hours occur. Totals of less than 1,750 hours occur on the west coast and highlands of Tasmania; this amount is only 40 per cent of the total possible per year (about 4,380 hours).

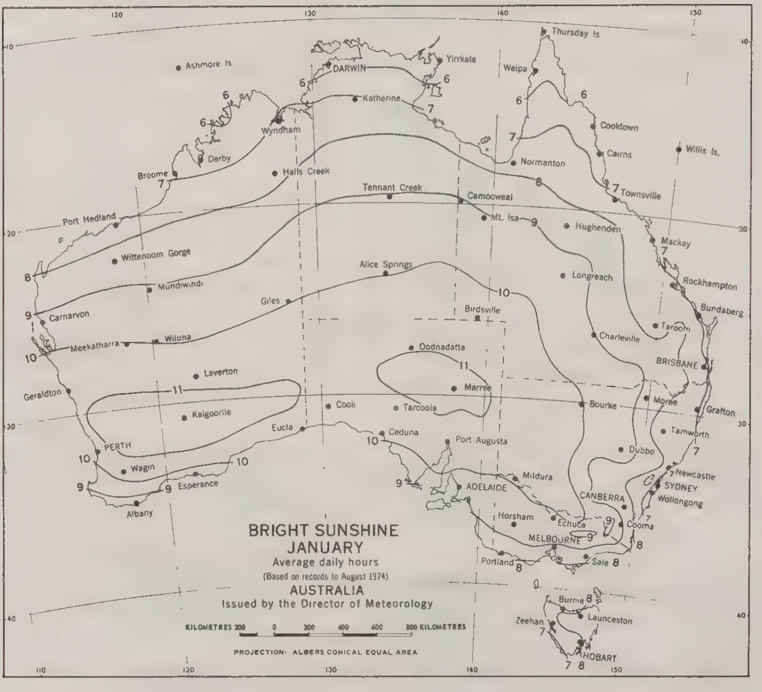
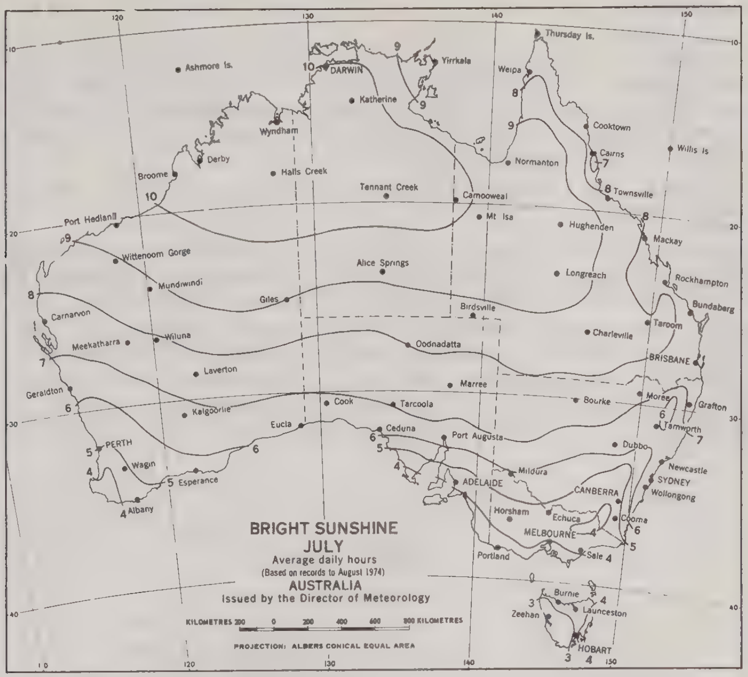

BRIGHT SUNSHINE
JANUARY
Average daily hours
(Based on records to August 1974)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40
Ashmore Is
DARWIN
Katherine
Yirrkala
Wyndham
Derby
Broome
Halls Creek
Port Hedland
Wittenoom Gorge
Mundiwindi
Carnarvon
Meekatharra
Wiluna
Giles
Laverton
Geraldton
Kalgoorlie
PERTH
Wagin
Esperance
Albany
Eucla
Cook
Tennant Creek
Alice Springs
Thursday Is
Weipa
Cooktown
Cairns
Willis Is.
Normanton
Townsville
Camooweal
Mt. Isa
Hughenden
Mackay
Longreach
Rockhampton
Bundaberg
Birdsville
Taroom
Charleville
Oodnadatta
Marree
Tarcoola
BRISBANE
Moree
Bourke
Grafton
Tamworth
Dubbo
Ceduna
Port Augusta
Newcastle
SYDNEY
Wollongong
Mildura
ADELAIDE
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
6
7
8
9
10
11

FIGURE 21


BRIGHT SUNSHINE
JULY
Average daily hours
(Based on records to August 1974)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
120
130
140
150
10
20
30
40
Thursday Is.
Ashmore Is.
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Cooktown
Willis Is
Cairns
Derby
Normanton
Halls Creek
Broome
Tennant Creek
Camooweal
Townsville
Mt Isa
Port Hedland
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Mundiwindi
Rockhampton
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Wiluna
Charleville
Meekatharra
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Moree
Grafton
Bourke
Kalgoorlie
Cook
Tarcoola
Tamworth
Eucla
Ceduna
Port Augusta
Dubbo
PERTH
Wagin
Newcastle
Mildura
SYDNEY
Esperance
ADELAIDE
Wollongong
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
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7
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9
10

FIGURE 22

In southern Australia the duration of sunshine is greatest about December when the sun is at its highest elevation, and lowest in June when the sun is lowest. In northern Australia sunshine is generally greatest about August–October prior to the wet season, and least about January–March during the wet season. The table below gives the 20, 50 and 80 percentiles of daily bright sunshine for the months of January and July at selected stations. These values give an indication of the variability of daily sunshine hours. Perth, for example, has a high variability of daily sunshine hours in the wet month of July and a low variability in the dry month of January. Darwin has a low variability in the dry season month of July and a high variability in the wet season month of January.

BRIGHT SUNSHINE, VARIABILITY OF DAILY HOURS
(20, 50 and 80 percentile values)

		January			*July*		
		Percentile			*Percentile*		
Station	*Period of record*	*20*	*50*	*80*	*20*	*50*	*80*
Adelaide	1955–1986	6.8	11.9	13.3	1.1	4.0	7.3
Alice Springs	1954–1986	7.8	11.8	13.0	7.6	10.4	10.7
Brisbane	1951–1985	2.6	8.4	11.5	4.5	9.0	9.9
Canberra	1978–1986	7.0	11.3	12.7	2.4	6.4	8.3
Darwin	1951–1986	1.5	5.9	9.4	9.8	10.6	10.9
Hobart	1950–1986	4.3	8.7	12.1	1.5	4.4	7.2
Melbourne	1955–1986	5.5	9.9	12.6	0.8	3.6	6.3
Perth	1942–1986	9.2	12.0	12.7	2.5	5.4	8.6
Sydney	1955–1986	1.9	8.1	11.6	3.2	7.5	9.3
Townsville	1943–1986	3.0	9.0	11.3	6.7	10.0	10.6

Evaporation

Evaporation is determined by measuring the amount of water evaporated from a free water surface exposed in a pan. Evaporation from a free water surface depends on a number of climatic elements, mainly temperature, humidity and wind. Evaporation data are useful in water conservation studies and estimating potential evapotranspiration for irrigation and plant growth studies. In Australia, where surface water storage is vital over large areas, evaporation is a highly significant element.

Average January, July and annual (Class A) pan evaporation is mapped in Figures 23, 24 and 25 respectively.

Due to the relatively short records at some stations, the maps may not be representative of climate averages in some areas. Dashed isopleths on the maps over some coastal fringes to aid interpolation do not represent evaporation from ocean surfaces or expanses of water.

Evaporation varies markedly with exposure of the instrument. Sheltering from wind and shading of pans cause local variations in measured evaporation of as much as 25 per cent. Instruments near expanses of water such as coastal inlets, rivers, reservoirs or irrigation systems may record lower evaporation than the surrounding country due to local effects on meteorological elements, notably humidity. Such reductions are about five to ten per cent.

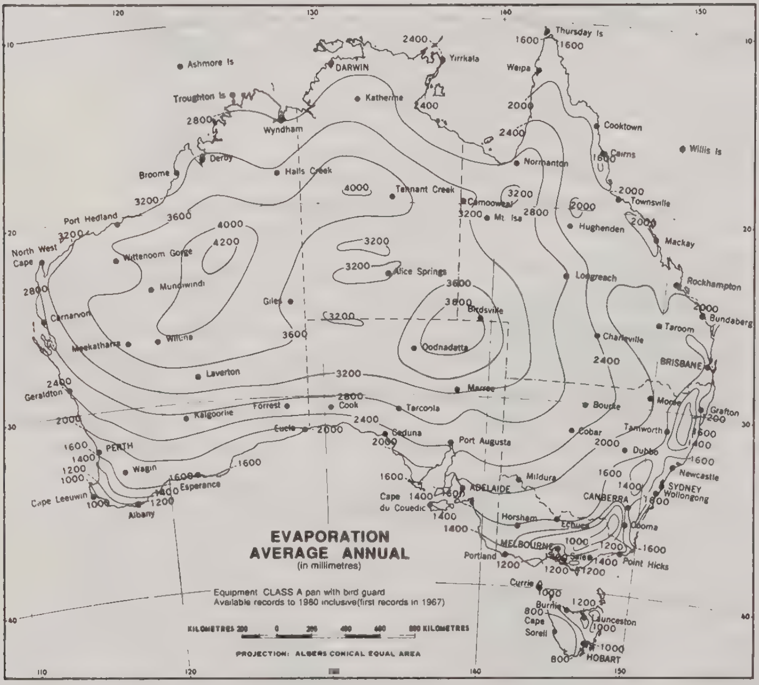
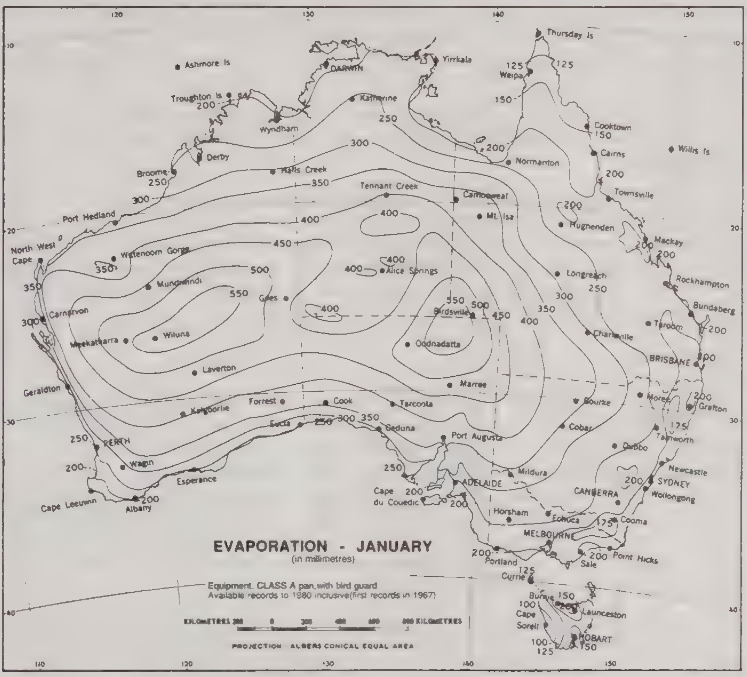
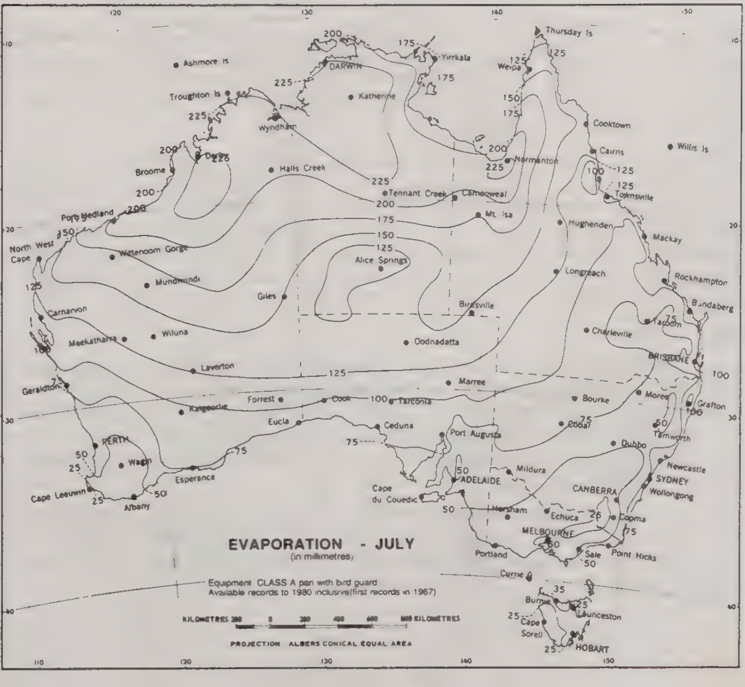

EVAPORATION
AVERAGE ANNUAL
(in millimetres)
Equipment CLASS A pan with bird guard
Available records to 1980 inclusive(first records in 1967)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is
DARWIN
Yirrkala
Thursday Is
Weipa
Troughton Is
Katherine
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Normanton
Tennant Creek
Camooweal
Mt Isa
Townsville
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
BRISBANE
Laverton
Marree
Geraldton
Moree
Kalgoorlie
Forrest
Cook
Tarcoola
Bourke
Grafton
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Sale
Point Hicks
Portland
Currie
Burnie
Launceston
Cape Sorell
HOBART
4200
4000
3600
3200
2800
2400
2000
1600
1400
1200
1000
800
110
120
130
140
150
10
20
30
40

FIGURE 23


EVAPORATION - JANUARY
(in millimetres)
Equipment. CLASS A pan with bird guard
Available records to 1980 inclusive (first records in 1967)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA
Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Troughton Is
Katherine
Wyndham
Cooktown
Willis Is
Derby
Cairns
Normanton
Broome
Halls Creek
Townsville
Tennant Creek
Camooweal
Port Hedland
Mt. Isa
Hughenden
North West Cape
Wittenoom Gorge
Mackay
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Bundaberg
Carnarvon
Birdsville
Taroom
Wiluna
Meekatharra
Oodnadatta
Charleville
BRISBANE
Laverton
Geraldton
Marree
Moree
Grafton
Forrest
Cook
Tarcoola
Bourke
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Mildura
Newcastle
SYDNEY
Esperance
ADELAIDE
CANBERRA
Wollongong
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART


EVAPORATION - JULY
(in millimetres)
Equipment CLASS A pan with bird guard
Available records to 1980 inclusive (first records in 1967)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION ALBERS CONICAL EQUAL AREA

FIGURES 24 AND 25

The Class A pan instruments have a wire mesh bird guard, which reduces the measured evaporation. An estimate of the unguarded average Class A pan evaporation for any locality may be derived by applying a seven per cent increase to the value interpolated from the maps.

Average annual Class A pan evaporation ranges from more than 4,000mm over central Western Australia to less than 1,000mm in alpine areas of south-east Australia and in much of Tasmania.

In areas south of the tropics, average monthly evaporation follows seasonal changes in solar radiation, giving highest evaporation in December and January, and lowest in June and July. In the tropics, onset of summer brings increasing cloudiness and higher humidity, causing reduced evaporation in these months. Maximum evaporation in tropical areas occurs around November on average, but high evaporation is sustained when summer rains are delayed or are persistently below average.

Cloud and fog

Cloud

Seasonal changes in cloudiness vary with the distribution of rainfall. In the southern parts of the continent, particularly in the coastal and low lying areas, the winter months are generally more cloudy than the summer months. This is due to the formation of extensive areas of stratiform cloud and fog during the colder months, when the structure of the lower layers of the atmosphere favours the physical processes resulting in this type of cloud. Particularly strong seasonal variability of cloud cover exists in northern Australia where skies are clouded during the summer wet season and mainly cloudless during the winter dry season. Cloud coverage is greater near coasts and on the windward slopes of the eastern uplands of Australia and less over the dry interior.

The average monthly and annual number of cloudy days (days when the cloud coverage was greater than or equal to seven-eighths of the sky) and clear days (less than or equal to one-eighth) is included for the capital cities in the detailed capital city statistical tables.

Fog

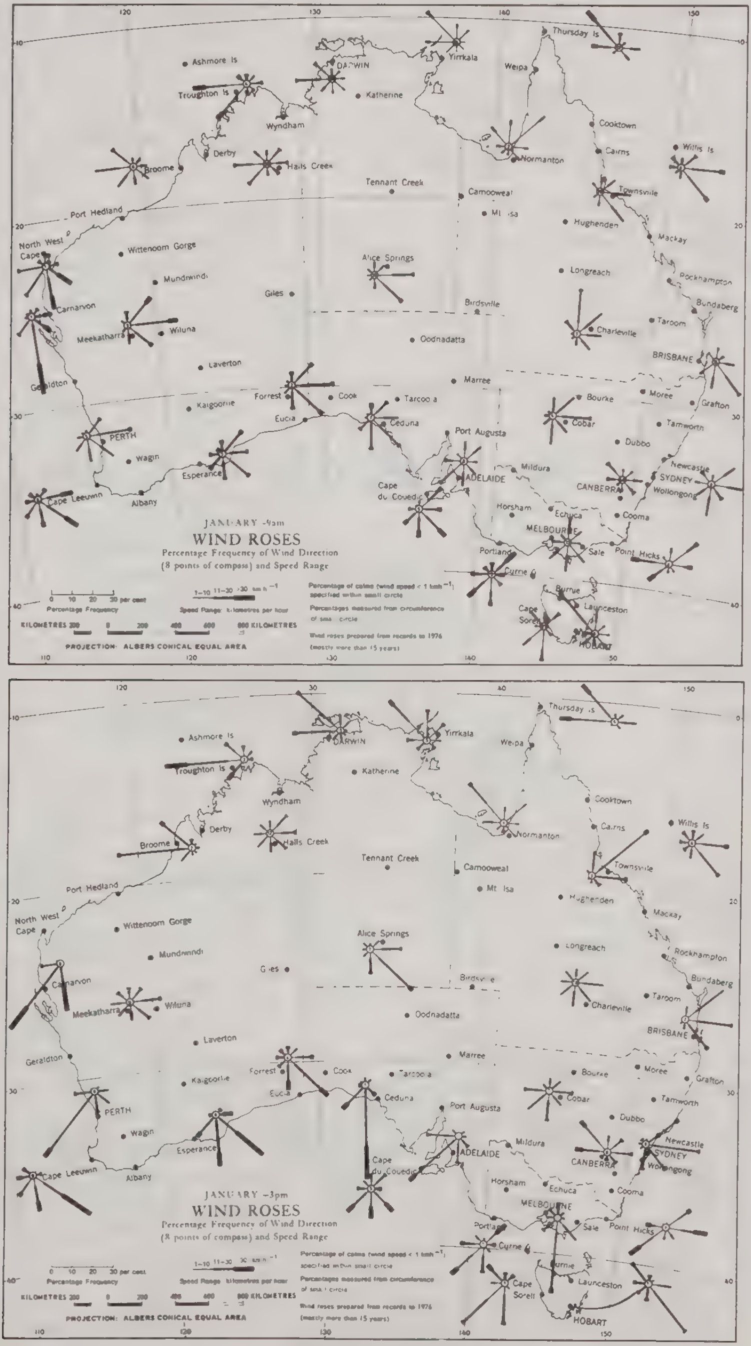
The formation of fog depends on the occurrence of favourable meteorological elements—mainly temperature, humidity, wind and cloud cover. The nature of the local terrain is important for the development of fog and there is a tendency for this phenomenon to persist in valleys and hollows. The incidence of fog may vary significantly over distances as short as one kilometre.

Fog in Australia tends to be greater in the south than the north, although parts of the east coastal areas are relatively fog prone even in the tropics. Incidence is much greater in the colder months, particularly in the eastern uplands. Fog may persist during the day but rarely until the afternoon over the interior. The highest fog incidence at a capital city is at Canberra which has an average of 47 days per year on which fog occurs, 29 of which are in the period of May to August. Brisbane averages 20 days of fog per year. Darwin averages only 2 days per year, in the months of July and August.

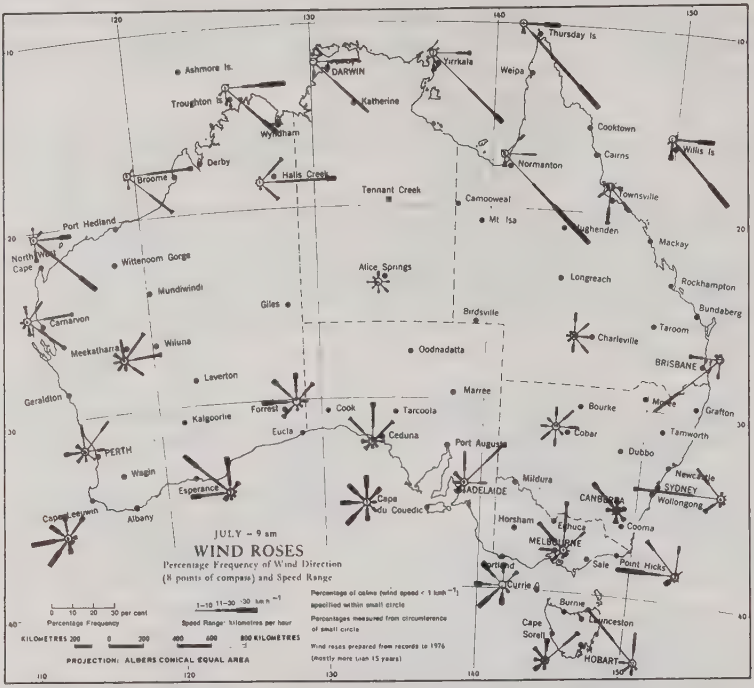
Winds

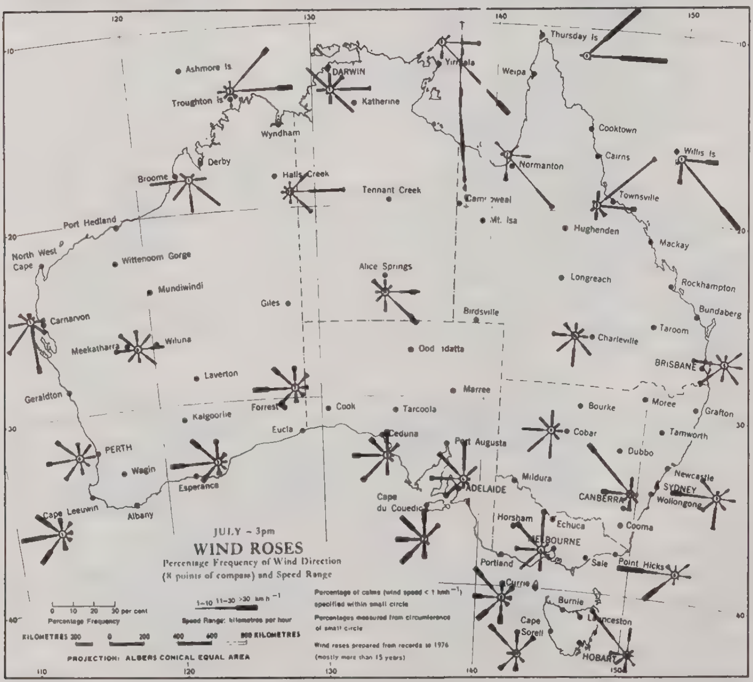
The mid-latitude anticyclones are the chief determinants of Australia's two main prevailing wind streams. In relation to the west–east axes of the anticyclones these streams are easterly to the north and westerly to the south. The cycles of development, motion and decay of low pressure systems to the north and south of the anticyclones result in diversity of wind flow patterns. Wind variations are greatest around the coasts where diurnal land and sea breeze effects are important.

Wind roses for the months of January and July at 9 a.m. and 3 p.m. at selected stations are shown in Figures 26 to 29 inclusive, extracted from *Climatic Atlas of Australia, 1988*. The wind roses show the percentage frequency of direction (eight points of compass) and speed ranges of winds.


JANUARY -9am
WIND ROSES
Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range
0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h^{-1}
Speed Range: kilometres per hour
Percentage of calms (wind speed < 1 km h^{-1}) specified within small circle
Percentages measured from circumference of small circle
Wind roses prepared from records to 1976 (mostly more than 15 years)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is
Troughton Is
DARWIN
Katherine
Yirrkala
Thursday Is
Weipa
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Normanton
Tennant Creek
Camooweal
Townsville
Mt Isa
Hughenden
Port Hedland
North West Cape
Wittenoom Gorge
Mackay
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Carnarvon
Birdsville
Bundaberg
Meekatharra
Wiluna
Taroom
Charleville
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Kalgoorlie
Grafton
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
SYDNEY
CANBERRA
Wollongong
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
JANUARY –3pm
WIND ROSES
Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range
0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h^{-1}
Speed Range: kilometres per hour
Percentage of calms (wind speed < 1 km h^{-1}) specified within small circle
Percentages measured from circumference of small circle
Wind roses prepared from records to 1976 (mostly more than 15 years)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40

FIGURES 26 AND 27


JULY – 9 am
WIND ROSES
Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range
0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h⁻¹
Speed Range: kilometres per hour
Percentage of calms (wind speed < 1 km h⁻¹) specified within small circle
Percentages measured from circumference of small circle
Wind roses prepared from records to 1976 (mostly more than 15 years)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40
Ashmore Is.
Troughton Is
DARWIN
Katherine
Yirrkala
Weipa
Thursday Is
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Tennant Creek
Normanton
Townsville
Camooweal
Mt Isa
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Leverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
SYDNEY
Cape du Couedic
CANBERRA
Wollongong
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART


JULY – 3pm
WIND ROSES
Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range
0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h⁻¹
Speed Range: kilometres per hour
Percentage of calms (wind speed < 1 km h⁻¹) specified within small circle
Percentages measured from circumference of small circle
Wind roses prepared from records to 1976 (mostly more than 15 years)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40
Ashmore Is
Troughton Is
DARWIN
Katherine
Yirrkala
Weipa
Thursday Is
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Tennant Creek
Normanton
Townsville
Camooweal
Mt. Isa
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
SYDNEY
Cape du Couedic
CANBERRA
Wollongong
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART

FIGURES 28 AND 29

Orography affects the prevailing wind pattern in various ways such as the channelling of winds through valleys, deflection by mountains and cold air drainage from highland areas. An example of this channelling is the high frequency of north-west winds at Hobart caused by the north-west – south-east orientation of the Derwent River Valley.

Average wind speeds and prevailing directions at Australian capitals are included in the detailed climatic tables. Perth is the windiest capital with an average wind speed of 15.6 kilometres per hour; Canberra is the least windy with an average speed of 5.4 kilometres per hour.

The highest wind speeds and wind gusts recorded in Australia have been associated with tropical cyclones. The highest recorded gust was 259 kilometres per hour at Mardie (near Onslow), Western Australia on 19 February 1975, and gusts reaching 200 kilometres per hour have been recorded on several occasions in northern Australia with cyclone visitations. The highest gusts recorded at Australian capitals were 217 kilometres per hour at Darwin and 156 kilometres per hour at Perth.

Floods

Widespread flood rainfall may occur anywhere in Australia but it has a higher incidence in the north and in the eastern coastal areas. It is most economically damaging along the shorter streams flowing from the eastern uplands eastward to the seaboard of Queensland and New South Wales. These flood rains are notably destructive in the more densely populated coastal river valleys of New South Wales; the Tweed, Richmond, Clarence, Macleay, Hunter and Nepean–Hawkesbury; all of which experience relatively frequent flooding. Although chiefly caused by summer rains, they may occur in any season.

The great Fitzroy and Burdekin river basins of Queensland receive flood rains during the summer wet seasons. Much of the run-off due to heavy rain in north Queensland west of the eastern uplands flows southward through the normally dry channels of the network of rivers draining the interior lowlands into Lake Eyre. This widespread rain may cause floods over an extensive area, but it soon seeps away or evaporates, occasionally reaching the lake in quantity. The Condamine and other northern tributaries of the Darling also carry large volumes of water from flood rains south through western New South Wales to the Murray and flooding occurs along their courses at times.

Flood rains occur at irregular intervals in the Murray–Murrumbidgee system of New South Wales and Victoria, the coastal streams of southern Victoria and the north coast streams of Tasmania.

Droughts

Drought, in general terms, refers to an acute water shortage. This is normally due to rainfall deficiency but with other parameters contributing to the actual water availability. The best single measure of water availability in Australia is rainfall, although parameters such as evaporation and soil moisture are significant or even dominant in some situations.

For further information on droughts in Australia *see Year Book* No. 71 page 620.

Climatic discomfort

In Australia climatic discomfort is significant in most areas. During the summer half of the year (November–April), prolonged high temperatures and humidity around the northern coasts and high temperatures over the inland cause physical stress. In winter, low temperatures and strong cold winds over the interior and southern areas can be severe for relatively short periods. However, cold stress does not cause prolonged physical hardship in Australia at altitudes lower than 1,000 metres, that is, over more than 99 per cent of the continent.

The climatic variables determining physical discomfort are primarily air temperature, vapour pressure and wind. The complete assessment of physical discomfort also requires analyses of such parameters as thermal conductivity of clothing, vapour pressure at the skin and the metabolic heat rate arising from activity of the human body. The cooling system of the human body depends on evaporation of moisture to keep body temperature from rising to lethal levels as air temperature rises. Defining criteria of discomfort is difficult because personal reactions to the weather differ greatly according to a number of variables including health, age, clothing, occupation and acclimatisation (Ashton, 1964). However, climatic strain has been measured experimentally, and discomfort indices based on the average response of subjects under specified conditions have been derived. One of the most commonly used indices is the relative strain index. The index, derived by Lee and Henschel (1963), has been applied in Australia to measure heat discomfort. The results obtained with Australian data are useful for purposes of comparison but interpretation of the actual results is tentative until empirical environmental studies are carried out in this region. In addition to temperature, humidity and air movement, the relative strain index has facilities for the incorporation of metabolic heat rate, net radiation and insulation of clothing. It has the advantage of being applicable to manual workers under shelter and expending energy at various metabolic heat rates.

The discomfort map, Figure 30, shows the average number of days per year when the relative strain index exceeds 0.3 discomfort level at 3 p.m. assuming standard conditions as defined (see following table). Maximum discomfort generally occurs around 3 p.m. on days of high temperature.

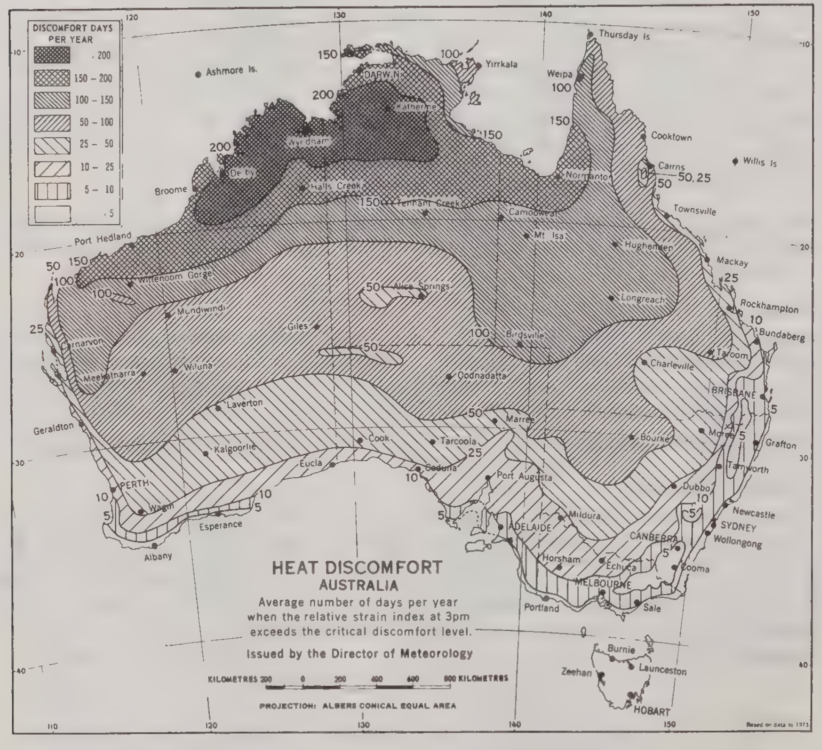

DISCOMFORT DAYS PER YEAR
> 200
150 – 200
100 – 150
50 – 100
25 – 50
10 – 25
5 – 10
< 5
HEAT DISCOMFORT
AUSTRALIA
Average number of days per year when the relative strain index at 3pm exceeds the critical discomfort level.
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Based on data to 1973
Thursday Is
Ashmore Is.
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Cooktown
Willis Is
Cairns
Normanton
Camooweal
Mt Isa
Townsville
Port Hedland
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Moree
Bourke
Grafton
Kalgoorlie
Cook
Tarcoola
Tamworth
Eucla
Ceduna
Port Augusta
PERTH
Dubbo
Wagin
Newcastle
SYDNEY
Mildura
Esperance
ADELAIDE
Wollongong
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
200
150
100
50
25
10
5
110
120
130
140
150
10
20
30
40

FIGURE 30

A notable feature is the lower frequency of days of discomfort in Queensland coastal areas in comparison with the northern coastal areas of Western Australia. This is due to the onshore winds prevailing on the Queensland coast and the cooling effect of the adjacent eastern uplands. Lower frequencies on the Atherton Plateau in the tropics near Cairns show the advantage of altitude. Relatively low heat discomfort frequencies are evident in upland and coast areas of south-east Australia. Tasmania is entirely in the zone of least discomfort, experiencing on the average less than one day of heat discomfort per year. In Western Australia most of the Kimberley region in the north lies in the highest discomfort zone with the frequencies decreasing southwards to a strip of lowest discomfort towards the south-west coast. A steep gradient of discomfort frequency on the west coast shows the moderating effect of sea breezes.

The average annual frequency of days when the relative strain index at 3 p.m. exceeds specified discomfort levels is shown in the table below. The Sydney frequencies were derived from observations at the regional office of the Bureau of Meteorology, which is representative of eastern coastal suburbs; frequencies are higher in western suburbs. The Melbourne frequencies were derived from observations at the Bureau's regional office, which may be taken as fairly representative of inner northern and eastern suburbs; frequencies are lower in bayside suburbs. Similarly, in other capital city areas significant variations occur with distance from the coast.

HEAT DISCOMFORT (a)

Station	*Period of record*	*Greater than—* 0.3 RSI	*Greater than—* 0.4 RSI
Adelaide	1956–86	6	2
Alice Springs	1942–87	52	4
Brisbane	1951–85	7	2
Broome	1941–67	163	66
Canberra	1940–87	3	<1
Carnarvon	1950–87	25	6
Ceduna	1943–87	15	3
Charleville	1943–87	45	6
Cloncurry	1942–74	132	37
Cobar	1964–85	23	3
Darwin	1943–87	173	32
Hobart	1944–87	<1	<1
Kalgoorlie	1943–87	28	4
Marble Bar	1957–74	179	86
Melbourne	1955–87	6	2
Mildura	1947–87	20	4
Perth	1942–87	13	2
Rockhampton	1940–87	42	8
Sydney	1955–86	3	<1
Townsville	1941–87	48	5
Wagga	1945–85	12	2
Woomera	1950–87	28	5

(a) Average number of days per year when relative strain index (RSI) at 3 p.m. exceeds 0.3 (discomfort) and 0.4 (high discomfort) under standard conditions (indoors, manual activities, light clothing, air movement 60 metres per minute)

At inland places, relatively low night temperatures have recuperative effects after hot days.

Acclimatised people would suffer discomfort less frequently than shown by the relative strain index figures. For example, Australians living in the north evidently experience less discomfort at high air temperatures than those in the south, if humidities are comparable.

Both direction and speed of prevailing winds are significant for the ventilation of buildings. In the tropics, for instance, windward slopes allow optimal air movement enabling more comfortable ventilation to be obtained. Regular sea breezes such as those experienced at Perth reduce discomfort although on some days their full benefit may not be experienced until after 3 p.m.

Climatic data for capital cities

The means or extremes for a number of elements determined from long-period observations at the Australian captials are given in the following pages. In general, all data up to and including 1987 are covered. Data for other localities are contained in *Climatic Averages Australia, 1988*.

CLIMATIC DATA: SYDNEY, NEW SOUTH WALES
(Lat. 33° 52′ S., Long. 151° 12′ E. Height above mean sea level (M.S.L.) 42 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)	*Wind (height of anemometer 22 metres)*							
Month		*Average (km/h)*	*Highest gust speed (km/h)*	*Prevailing direction 9 a.m.*	*Prevailing direction 3 p.m.*	*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
No. of years of record	72	32	62	*(c)*	*(c)*	*(d)*7	67	31	76
January	1,012.7	12.3	150	S	E	220	3.2	12	5.1
February	1,014.3	11.6	111	S	E	178	2.5	11	4.6
March	1,016.4	10.5	96	W	E	164	1.6	10	5.9
April	1,018.3	10.2	116	W	E	123	1.2	8	7.7
May	1,018.9	10.5	135	W	S	93	0.8	8	7.9
June	1,018.8	11.6	135	W	S	78	0.8	9	8.2
July	1,018.6	11.5	109	W	W	90	0.7	6	10.7
August	1,017.9	12.1	113	W	W	115	1.3	6	10.9
September	1,017.0	11.6	131	W	E	141	1.8	7	9.0
October	1,015.3	12.3	153	W	ENE	171	2.6	10	6.5
November	1,013.6	12.4	118	S	E	192	3.5	10	5.3
December	1,012.0	12.3	121	S	E	239	3.6	10	5.0
Year Totals	..	..	..	..	..	**1,804**	**23.7**	**107**	**86.8**
Averages	**1,016.1**	**11.6**	..	W	E	..	..	..	..
Extremes	..	..	**153**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* Years 1895–1988 inclusive. *(d)* Sydney Airport, Class A Pan (1974–80)

TEMPERATURE AND SUNSHINE

	Air temperature daily readings (°Celsius)			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		
Month	*Mean max.*	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	*Mean daily hours sunshine*
No. of years of record	123	123	123	123		123		124		61
January	25.8	18.4	22.1	45.3	14/3	10.6	18/49	6.5	6/25	7.2
February	25.5	18.5	22.0	42.1	8/26	9.6	28/63*	6.0	22/33	6.8
March	24.6	17.4	21.0	39.2	3/69*	9.3	14/86*	4.4	17/13	6.3
April	22.2	14.6	18.4	33.9	5/86	7.0	27/64*	0.7	24/09	6.3
May	19.7	11.3	15.5	30.0	1/19	4.4	30/62*	–1.5	25/17	5.8
June	16.7	9.2	12.9	26.9	11/31	2.1	22/32	–22	22/32	5.3
July	15.9	7.9	11.9	25.7	22/26	2.2	12/90*	–4.4	4/93*	6.3
August	17.5	8.9	13.2	30.4	24/54	2.7	3/72*	–3.3	4/9	6.9
September	19.7	10.9	15.3	34.6	26/65	4.9	2/45	–1.1	17/05	7.2
October	21.9	13.4	17.7	37.4	4/42	5.7	6/27	0.4	9/05	7.3
November	23.5	15.5	19.5	40.3	6/46	7.7	1/05	1.9	21/67	7.6
December	25.0	17.3	21.1	42.2	20/5	9.1	3/24	5.2	3/24	7.5
Year Averages	**21.5**	**13.6**	**17.4**	..	..	..	..	..	..	**6.7**
Extremes	..	..	..	**45.3**	**14/1/39**	**2.1**	**22/6/32**	**–4.4**	**4/7/1893**	..

NOTE: Figures such as 14/39, 18/49, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century.

CLIMATIC DATA: SYDNEY, NEW SOUTH WALES — *continued*
(Lat. 33° 52′ S., Long. 151° 12′ E. Height above mean sea level (M.S.L.) 42 metres)

HUMIDITY, RAINFALL AND FOG

		Rel. hum (%)		*Rainfall (millimetres)*								
Month		*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record		31	31	123	123	123		123		123		61
January		69	62	102	13	388	(1911)	6	(1932)	180	13/11	0.3
February		72	64	113	13	564	(1954)	3	(1939)	226	25/73*	0.6
March		72	62	135	14	521	(1942)	8	(1965)	281	28/42	1.3
April		71	58	124	13	622	(1861)	2	(1868)	191	29/0*	1.9
May		72	55	121	13	585	(1919)	4	(1957)	212	28/89*	3.0
June		74	57	131	12	643	(1950)	4	(1962)	131	16/84*	2.4
July		69	50	101	11	336	(1950)	2	(1970)	198	7/31	1.9
August		66	49	80	11	471	(1986)	1	(1885)	328	6/86	1.5
September		62	51	69	11	357	(1879)	2	(1882)	145	10/79*	0.9
October		61	56	78	12	283	*(a)*	2	(1971)	162	13/02	0.6
November		63	57	81	12	517	(1961)	2	(1915)	235	9/84	0.5
December		65	59	77	12	402	(1920)	3	(1979)	126	9/70	0.4
	Totals	..	..	**1,214**	**148**		..		..	..	..	**15.2**
Year	**Averages**	**68**	**57**	..	..	..	..	..	..	..		
	Extremes	..	..	..	..	**643**	**(6/1950)**	**1**	**(8/1885)**	**281**	**28/3/1942**	..

(a) 1916 and 1959.
NOTE: Figures such as 13/11, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: MELBOURNE, VICTORIA
(Lat. 37° 49′ S., Long. 144° 58′ E. Height above M.S.L. 35 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

			Wind (height of anemometer 28 metres)							
Month		*Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Average (km/h)*	*Highest gust speed (km/h)*	*Prevailing direction 9 a.m.*	*Prevailing direction 3 p.m.*	*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
No. of years of record		130	*(c)*47	77	68	68	*(d)*20	79	31	79
January		1,012.9	11.9	106	S	S	204	1.6	7	6.5
February		1,014.4	11.5	119	S	S	179	1.7	7	6.2
March		1,016.8	10.5	106	N	S	135	1.3	10	5.4
April		1,019.0	10.1	108	N	S	91	0.7	11	4.2
May		1,019.2	10.6	116	N	N	57	0.4	14	2.9
June		1,019.0	10.8	103	N	N	36	0.2	13	2.7
July		1,018.6	12.1	109	N	N	43	0.2	12	2.6
August		1,017.6	12.1	108	N	N	61	0.6	13	2.7
September		1,016.0	12.4	120	N	S	85	0.7	11	3.6
October		1,014.8	12.2	111	N	S	125	1.5	12	3.6
November		1,014.0	12.5	114	SW	S	151	1.9	12	3.2
December		1,012.4	12.3	104	S	S	187	2.1	10	4.2
	Totals	..	..	..	..	..	**1,356**	**12.8**	**132**	**48.0**
Year	**Averages**	**1,016.2**	**11.7**	..	**N**	**S**	..	..	..	..
	Extremes	..	..	**120**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* Early records not comparable. *(d)* Class A Pan.

CLIMATIC DATA: MELBOURNE, VICTORIA — *continued*

(Lat. 37° 49′ S., Long. 144° 58′ E. Height above M.S.L. 35 metres)

TEMPERATURE AND SUNSHINE

	Air temperature daily readings (°Celsius)			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		
Month	*Mean max.*	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	*Mean daily hours sun-shine*
No. of years of record	131	131	131	131		131		122		(*a*)52
January	25.8	14.0	19.9	45.6	13/39	5.6	28/85*	—1.0	28/85*	8.1
February	25.7	14.3	20.0	43.2	8/83	4.6	24/24	——0.6	6/91*	7.5
March	23.8	13.0	18.4	41.7	11/40	2.8	17/84*	–1.7	(b)	6.6
April	20.1	10.6	15.3	34.9	5/38	1.6	24/88*	–3.9	23/97*	5.1
May	16.5	8.5	12.5	28.7	7/05	–1.2	29/16	–6.1	26/16	3.9
June	13.9	6.7	10.3	22.4	2/57	–2.2	11/66*	–6.7	30/29	3.4
July	13.3	5.7	9.5	23.1	30/75	–2.8	21/69*	–6.4	12/03	3.7
August	14.8	6.5	10.7	26.5	29/82	–2.1	11/63*	–5.9	14/02	4.6
September	17.1	7.7	12.4	31.4	28/28	–0.6	3/40	–5.1	8/18	5.5
October	19.5	9.3	14.4	36.9	24/14	0.1	3/71*	–4.0	22/18	5.9
November	21.8	10.9	16.4	40.9	27/94*	2.4	2/96*	-4.1	2/96*	6.5
December	24.1	12.7	18.4	43.7	15/76	4.4	4/70*	0.7	1/04	7.3
Year **Averages**	**19.7**	**10.0**	**14.9**	..	..	..	..	..	..	**5.7**
Extremes	..	..	..	**45.6**	**13/1/39**	**–2.8**	**21/7/69***	**–6.7**	**30/6/29**	..

(*a*) Discontinued 1967. (*b*) 17/1884 and 20/1897.
NOTE: Figures such as 13/39, 28/85*, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century.

HUMIDITY, RAINFALL AND FOG

	Rel. hum. (%)		*Rainfall (millimetres)*								
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No.of years of record	78	78	131	131	131		131		128		129
January	59	46	47	8	176	(1963)	(*a*)	(1932)	108	29/63	0.1
February	63	48	48	7	238	(1972)	(*a*)	(1965)	87	26/46	0.3
March	65	50	53	9	191	(1911)	4	(1934)	90	5/19	0.7
April	72	54	58	11	195	(1960)	Nil	(1923)	80	23/60	1.7
May	78	61	58	14	142	(1942)	4	(1934)	51	15/74	3.4
June	82	65	49	14	115	(1859)		8(1858)	44	22/04	4.3
July	81	63	48	15	178	(1891)	9	(1979)	74	12/91*	4.1
August	75	58	51	15	111	(1939)	12	(1903)	54	17/81*	2.2
September	68	54	59	14	201	(1916)	13	(1907)	59	23/16	0.8
October	62	52	68	14	193	(1869)	7	(1914)	61	21/53	0.4
November	61	50	59	12	206	(1954)	6	(1895)	732	1/54	0.2
December	59	47	58	10	182	(1863)	1	(1972)	100	4/54	0.2
Totals	..	..	**655**	**143**		..		..	..	..	**18.2**
Year **Averages**	**69**	**54**	..	..		..		..	..	..	..
Extremes	..	..	..	..	**238**	**(2/72)**	**Nil**	**(4/23)**	**108**	**29/1/63**	..

(*a*) Less than 1 mm.
NOTE: Figures such as 29/63, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: BRISBANE, QUEENSLAND
(Lat. 27° 28′ S., Long. 153° 2′ E. Height above M.S.L. 41 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

Month	*Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Wind (height of anemometer 32 metres)*				*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
		Average (km/h)	*Highest gust speed (km/h)*	*Prevailing direction*					
				9 a.m.	*3 p.m.*				
No. of years of record	99	70	71	*(c)*	*(c)*	*(d)*19	99	99	78
January	1,011.7	11.7	145	SE	NE	176	4.4	4	3.2
February	1,012.5	11.5	108	SSW	NE	142	3.5	4	2.5
March	1,014.5	11.1	106	SSW	ENE	140	2.2	4	5.5
April	1,017.1	10.1	104	SW	SE	114	1.4	2	7.7
May	1,018.5	9.5	87	SW	SE	81	0.5	3	9.5
June	1,018.4	9.8	95	SW	W	64	0.5	2	10.5
July	1,018.9	9.6	111	SW	W	70	0.3	2	13.3
August	1,018.9	9.7	100	SW	NE	98	1.3	2	13.5
September	1,017.8	10.1	102	SW	NE	128	2.7	2	12.4
October	1,016.1	10.6	100	SW	NE	152	4.1	3	8.3
November	1,014.2	11.1	111	SE	NE	168	5.6	3	5.8
December	1,012.1	11.4	127	SE,N	NE	193	6.5	3	4.5
Year Totals	..	..	..	..	..	**1,526**	**33.0**	**34**	**96.7**
Averages	**1,015.9**	**10.5**	..	**SW**	**NE**	..	..	..	..
Extremes	..	..	**145**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* 1887-1986. *(d)* Class A Pan.

TEMPERATURE AND SUNSHINE

Month	*Air temperature daily readings (°Celsius)*			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		*Mean daily hours sunshine*
	Mean max.	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	
No. of years of record	99		99	99		99	98		77	
January	29.4	20.8	25.0	43.2	26/40	14.9	4/93*	9.9	4/93*	7.6
February	29.0	20.6	24.8	40.9	21/25	14.7	23/31	9.5	22/31	7.0
March	28.0	19.4	23.7	38.8	13/65	11.3	29/13	7.4	29/13	6.8
April	26.1	16.7	21.3	36.1	19/73	6.9	25/25	2.6	24/25	7.2
May	23.2	13.4	18.3	32.4	21/23	4.8	30/51	–1.2	8/97*	6.8
June	20.8	10.9	15.9	31.6	19/18	2.4	29/08	–3.7	23/88*	6.7
July	20.4	9.6	15.0	29.1	23/46	2.3	*(a)*	–4.5	11/90*	7.0
August	21.8	10.3	16.1	32.8	14/46	2.7	13/64	–2.7	9/99*	8.0
September	24.0	12.9	18.5	38.3	22/43	4.8	1/96*	–0.9	1/89*	8.3
October	26.1	15.9	20.9	40.7	30/58	6.3	3/99*	1.6	*	8.2
November	27.8	18.2	22.9	41.2	18/13	9.2	2/05	3.8	1/05	8.2
December	29.1	19.9	24.5	41.2	7/81	13.5	5/55	9.5	3/94*	8.2
Year Averages	**25.5**	**15.7**	**20.6**	..	..	..	..	..	..	**7.5**
Extremes	..	..	..	**43.2**	**26/1/1940**	**2.3**	***(a)***	**–4.5**	**11/7/1890**	..

(a) 12/1894 and 2/1896.
NOTE: Figures such as 26/40, 4/93*, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century.

CLIMATIC DATA: BRISBANE, QUEENSLAND — *continued*
(Lat. 27° 28′ S., Long. 153° 2′ E. Height above M.S.L. 41 metres)

HUMIDITY, RAINFALL AND FOG

	Rel. hum. (%)		*Rainfall (millimetres)*								
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record	47	44	135	126	135	135	135			99	
January	66	58	164	13	872	(1974)	8	(1919)	465	21/87*	0.5
February	70	60	161	14	1,026	(1893)	15	(1849)	270	6/3	0.5
March	71	59	143	15	865	(1870)	Nil	(1849)	284	14/0	1.1
April	69	54	87	11	388	(1867)	1	(1944)	178	3/7	2.1
May	70	52	73	10	410	(1980)	Nil	(1846)	149	9/80	2.9
June	70	51	68	8	647	(1967)	Nil	(1847)	283	12/67	2.7
July	68	47	57	7	330	(1973)	Nil	*(a)*	193	20/6	2.7
August	64	44	46	7	373	(1879)	Nil	*(b)*	124	12/87*	3.3
September	61	46	47	8	138	(1886)	*(c)*	(1979, 80)	80	12/65	2.3
October	60	52	76	9	456	(1972)	*(c)*	(1948)	136	25/49	1.2
November	60	55	99	10	413	(1981)	Nil	(1842)	143	8/66*	0.5
December	62	57	130	12	441	(1942)	9	(1865)	168	28/71*	0.3
Year Totals	..	..	**1,151**	**123**	..		..		..	..	**20.0**
Averages	**66**	**53**	..	..	..		..		..	..	..
Extremes	..	..	..	..	**1,026**	**(2/1983)**	**Nil**	**(Various)**	**465**	**21/1/1887**	..

(a) 1841 and 1951. *(b)* 1862, 1869, 1880 and 1977. *(c)* Less than 1 mm.
NOTE: Figures such as 21/87*, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: ADELAIDE, SOUTH AUSTRALIA
(Lat. 34° 56′ S., Long. 138° 35′ E. Height above M.S.L. 43 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

		Wind (height of anemometer 22 metres)							
Month	*Mean of 9 a.m and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Average (km/h)*	*Highest gust speed (km/h)*	*Prevailing direction 9 a.m.*	*Prevailing direction 3 p.m.*	*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
No. of years of record	121	*(c)*23	63	*(d)*	*(d)*	*(e)*12	105	45	62
January	1,013.2	12.8	116	SW	SW	254	1.5	3	11.9
February	1,014.3	12.1	106	SW	SW	216	1.1	3	10.8
March	1,017.2	11.4	126	NE	SW	180	0.8	4	10.7
April	1,019.9	11.4	130	NE	SW	120	1.0	6	6.7
May	1,020.1	11.3	113	NE	WSW	79	1.0	7	4.5
June	1,019.9	11.6	108	NE	NNW	56	0.9	7	3.8
July	1,020.8	11.8	148	NE	NNW	60	0.8	8	3.5
August	1,019.0	12.8	121	NE	WSW	78	1.1	6	4.6
September	1,017.7	13.2	111	NE	W	110	1.3	6	5.5
October	1,016.0	13.6	121	NE	SW	164	1.9	6	5.6
November	1,015.0	13.9	130	SW	WSW	196	2.0	5	6.5
December	1,013.3	13.5	121	W	SW	242	1.5	4	8.7
Year Totals	..	..	..	..	..	**1,751**	**14.9**	**65**	**82.6**
Averages	**1,017.1**	..	..	**NE**	**SW**	..	..	..	..
Extremes	..	..	**148**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* Records of cup anemometer. *(d)* 1887–1977. *(e)* Class A Pan.

CLIMATIC DATA: ADELAIDE, SOUTH AUSTRALIA — *continued*
(Lat. 34° 56′ S., Long. 138° 35′ E. Height above M.S.L. 43 metres)

TEMPERATURE AND SUNSHINE

	Air temperature daily readings (°Celsius)			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		
Month	*Mean max.*	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min*	*Date*	*Lowest terrestrial min.*	*Date*	*Mean daily hours sun-shine*
No. of years of record	122	122	122	125		125		119		95
January	29.5	16.4	23.0	47.6	12/39	7.3	21/84*	1.8	3/77	10.0
February	29.3	16.6	23.0	45.3	12/99*	7.5	23/18	2.1	23/26	9.3
March	26.8	15.1	21.0	43.6	9/34	6.6	21/33	0.1	21/33	7.9
April	22.7	12.6	17.7	37.0	5/38	4.2	15/59*	–3.5	30/77	6.0
May	18.7	10.3	14.5	31.9	4/21	*(a)*1.5	22/85	–3.6	19/28	4.8
June	15.8	8.3	12.1	25.6	4/57	*(a)*–0.4	8/82	–6.1	24/44	4.2
July	15.0	7.3	11.1	26.6	29/75	0.0	24/08	–5.5	30/29	4.3
August	16.4	7.8	12.1	29.4	31/11	0.2	17/59*	–5.1	11/29	5.3
September	18.9	9.0	13.9	35.1	30/61	0.4	4/58*	–3.9	25/27	6.2
October	22.0	10.9	16.5	39.4	21/22	2.3	20/58*	–3.0	22/66	7.2
November	25.1	12.9	19.1	45.3	21/65*	4.9	2/09	–0.6	17/76	8.6
December	27.7	15.0	21.3	45.9	29/31	6.1	*(b)*	–1.0	19/76	9.4
Year Averages	**22.3**	**11.9**	**17.1**	..	..	..	..	..	..	**6.9**
Year Extremes	..	..	..	**47.6**	**12/1/39**	**–0.4**	**24/7/08**	**–6.1**	**24/6/44**	

(a) Recorded at Kent Town. *(b)* 16/1861 and 4/1906.
NOTE: Figures such as 12/39, 21/84*, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century.

HUMIDITY, RAINFALL AND FOG

	Rel. hum. (%)		*Rainfall (millimetres)*								
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record	122	111	140	140		140		140	140		77
January	42	34	20	4	84	(1941)	Nil	*(a)*	58	2/89*	0.0
February	45	35	21	4	155	(1925)	Nil	*(a)*	141	7/25	0.0
March	49	39	24	5	117	(1878)	Nil	*(a)*	89	5/78*	0.0
April	58	47	44	9	154	(1971)	Nil	(1945)	80	5/60*	0.0
May	69	57	68	13	197	(1875)	3	(1934)	70	1/53*	0.4
June	76	64	72	15	218	(1916)	6	(1958)	54	1/20	1.1
July	77	64	66	16	*(b)*160	(1890)	10	(1899)	44	10/65*	1.3
August	71	58	61	15	157	(1852)	8	(1944)	57	19/51*	0.6
September	62	52	51	13	148	(1923)	7	(1951)	40	20/23	0.2
October	53	45	44	11	133	(1949)	1	(1969)	57	16/08	0.0
November	46	39	31	8	113	(1839)	1	(1967)	75	12/60	0.0
December	43	36	26	6	101	(1861)	Nil	(1904)	61	23/13	0.0
Year Totals	..	..	**528**	**119**		..		..	..	..	**3.6**
Year Averages	**58**	**48**	..	..		..		..	..	..	..
Year Extremes	..	..	..	..	**218**	**(6/1916)**	**Nil**	*(c)*	**141**	**7/2/25**	..

(a) Various years. *(b)* Kent Town. *(c)* December to April, various years.
NOTE: Figures such as 2/89*, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.
In February, 1977, the Adelaide Regional Office of the Bureau of Meteorology moved from West Terrace to Kent Town. Averages presented is this table are calculated from the observations recorded at West Terrace. Extremes recorded at Kent Town are marked.

CLIMATIC DATA: PERTH, WESTERN AUSTRALIA
(Lat. 31° 57′ S., Long. 115° 51′ E. Height above M.S.L. 19.5 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

Month	*Mean of 9 a.m and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Wind (height of anemometer 22 metres)*				*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
		Average (km/h)	*Highest gust speed (km/h)*	*Prevailing direction 9 a.m.*	*Prevailing direction 3 p.m.*				
No. of years of record	94	46	68	*(c)*	*(c)*	*(d)*12	82	45	46
January	1,012.6	17.5	81	E	SW	285	0.9	2	14
February	1,013.0	17.2	113	E	SW	242	0.7	2	13
March	1,015.2	16.2	113	E	SW	213	0.7	2	12
April	1,017.9	13.7	130	E	SW	132	0.9	5	9
May	1,017.9	13.5	119	NE	SW	94	1.7	6	6
June	1,017.6	13.5	129	NE	NW	69	1.8	7	5
July	1,018.8	14.2	137	NE	NW	75	1.5	6	5
August	1,018.8	15.1	156	NE	W	87	1.3	5	6
September	1,018.4	15.1	109	E	SW	118	0.7	4	8
October	1,017.0	16.1	105	E	SW	173	0.7	3	8
November	1,015.5	17.2	101	E	SW	216	0.8	3	9
December	1,013.4	17.7	103	E	SW	275	0.9	2	13
Year Totals	..	..	..	..	..	**1,979**	**12.6**	**47**	**108**
Averages	**1,016.4**	**15.6**	..	**E**	**SW**	..	..	..	..
Extremes	..	..	**156**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* 1942-1988. *(d)* Class A Pan.

TEMPERATURE AND SUNSHINE

Month	*Air temperature daily readings (°Celsius)*			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		*Mean daily hours sun-shine*
	Mean max.	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	
No. of years of record	85	85	85	85		85		84		81
January	29.6	17.7	23.5	44.7	12/78	9.2	20/25	4.2	20/25	10.5
February	29.9	17.9	23.7	44.6	8/33	8.7	1/02	4.3	1/13	10.1
March	27.8	16.6	22.2	41.3	14/22	7.7	8/03	2.6	*(a)*	9.0
April	24.5	14.1	19.2	37.6	9/10	4.1	20/14	–0.7	26/60	7.4
May	20.7	11.6	16.1	32.4	2/07	1.3	11/14	–3.9	31/64	5.9
June	18.2	9.9	14.1	28.1	5/75	1.6	22/55	–3.4	27/46	4.9
July	17.3	9.0	13.2	26.3	17/76	1.2	7/16	–3.8	30/20	5.3
August	17.9	9.1	13.5	27.8	21/40	1.9	31/08	–3.0	18/66	6.2
September	19.4	10.1	14.8	32.7	30/18	2.6	6/56	–2.7	*(b)*	7.2
October	21.2	11.5	16.3	37.3	29/67	4.2	6/68	–1.2	16/31	8.3
November	24.6	14.0	19.2	40.3	24/13	5.6	1/04	–1.1	6/71	9.7
December	27.3	16.2	21.7	42.3	31/68	8.6	29/57	3.3	29/57	10.6
Year Averages	**23.2**	**13.1**	**18.2**	..	..	..	..	..	..	**7.9**
Extremes	..	..	..	**44.7**	**12/1/78**	**1.2**	**7/7/16**	**–3.9**	**31/5/64**	

(a) 8/1903 and 16/1967. *(b)* 8/1952 and 6/1956.
NOTE: Figures such as 12/78, 20/25 indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century.

CLIMATIC DATA: PERTH, WESTERN AUSTRALIA — *continued*
(Lat. 31° 57′ S., Long. 115° 51′ E. Height above M.S.L. 19.5 metres)

HUMIDITY, RAINFALL AND FOG

		Rel. hum. (%)		*Rainfall (millimetres)*								
Month		*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record		44	44	106	102	106		106		102		79
January		50	41	8	3	55	(1879)	Nil	*(a)*	44	27/79*	0.2
February		53	40	12	3	166	(1955)	Nil	*(a)*	87	17/55	0.3
March		57	42	20	4	145	(1934)	Nil	*(a)*	77	9/34	0.6
April		65	49	45	8	149	(1926)	Nil	(1920)	67	30/04	0.9
May		72	53	124	14	308	(1879)	14	(1964)	76	17/42	1.3
June		78	60	183	17	476	(1945)	55	(1877)	99	10/20	1.4
July		78	60	174	18	425	(1958)	61	(1876)	76	4/91*	1.6
August		74	57	137	17	318	(1945)	12	(1902)	74	14/45	1.0
September		68	54	80	14	199	(1923)	9	(1916)	47	18/66	0.3
October		59	49	55	11	200	(1890)	1	(1969)	55	1/75	0.4
November		54	46	21	6	71	(1916)	Nil	(1891)	39	29/56	0.2
December		51	44	14	4	81	(1951)	Nil	*(a)*	47	3/51	0.2
	Totals	..	..	**873**	**119**	..		..		..	..	**8.1**
Year	**Averages**	**63**	**50**	..	..	..		..		..	. .	..
	Extremes	..	..	..	..	**476**	**(6/1945)**	**Nil**	***(a)***	**99**	**10/6/20**	..

(a) Various years.
NOTE: Figures such as 27/79*, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: HOBART, TASMANIA
(Lat. 42° 53′ S., Long. 147° 20′ E. Height above M.S.L. 54 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

			Wind (height of anemometer 12 metres)							
Month		*Mean of 9 a.m and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Average (km/h)*	*Highest gust speed (km/h)*	*Prevailing direction 9 a.m.*	*Prevailing direction 3 p.m.*	*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
No. of years of record		99	76	96	*(c)*	*(c)*	*(d)*11	75	42	44
January		1,010.6	12.7	130	NNW	SE	142	1.0	10	1.9
February		1,012.9	11.7	121	NNW	SE	123	0.9	9	2.3
March		1,014.3	11.1	127	NW	SE	92	0.8	11	2.4
April		1,015.5	11.0	141	NW	NW	59	0.3	11	1.7
May		1,015.5	10.8	135	NW	NW	36	Nil	13	2.4
June		1,015.4	10.2	132	NW	NW	20	Nil	11	2.4
July		1,014.1	10.9	129	NNW	NW	24	Nil	10	2.0
August		1,012.8	11.1	140	NNW	NW	43	Nil	11	2.1
September		1,011.4	12.5	150	NNW	NW	59	0.1	10	1.5
October		1,010.5	12.6	140	NW	SE	90	0.4	12	1.0
November		1,009.9	12.8	135	NW	SE	121	0.6	12	1.3
December		1,009.4	12.5	122	NW	SE	144	0.8	12	1.1
	Totals	..	..	..	..	..	**953**	**4.9**	**132**	**22.1**
Year	**Averages**	**1,012.7**	**11.7**	..	**NW**	**SE**	..	..	..	..
	Extremes	..	..	**150**	..	..	..	..	..	..

(a) Mean numbers of days when cloud equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c) 1944-1988. (d)* Class–A with Bird Guard.

CLIMATIC DATA: HOBART, TASMANIA — *continued*
(Lat. 42° 53′ S., Long. 147° 20′ E. Height above M.S.L. 54 metres)

TEMPERATURE AND SUNSHINE

		Air temperature daily readings (°Celsius)			*Extreme air temperature (°Celsius)*			*Extreme temperature (°Celsius)*		
Month	*Mean max.*	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	*Mean daily hours sunshine*
No. of years of record	101	101	101		101		101	99		75
January	21.5	11.7	16.5	40.8	4/76	4.5	9/37	–0.8	19/97*	7.7
February	21.6	11.9	16.7	40.2	12/99*	3.4	10/80*	–2.0	—/87*	6.9
March	20.0	10.7	15.2	37.3	13/40	1.8	31/26	–2.5	30/02	6.2
April	17.1	8.8	12.9	30.6	1/41	0.6	14/63	–3.9	—/86*	5.0
May	14.9	6.8	10.5	25.5	5/21	–1.6	30/02	–6.7	19/02	4.2
June	11.8	5.1	8.5	20.6	1/07	–2.8	25/72	–7.7	24/63	3.8
July	11.5	4.4	7.9	21.0	30/75	–2.8	11/81	–7.5	1/78	4.2
August	12.9	5.1	9.1	24.5	26/77	–1.8	5/62	–6.6	7/09	4.9
September	14.9	6.3	10.6	28.2	29/73	–0.6	16/97*	–7.6	16/26	5.7
October	16.9	7.6	12.2	33.4	24/14	0.0	12/89*	–4.6	*(a)*	6.3
November	18.5	9.1	13.8	36.8	26/37	1.6	16/41	–3.4	1/08	6.9
December	20.2	10.6	15.4	40.7	30/97*	3.3	3/06	–2.6	—/86*	7.2
Year Averages	**16.8**	**8.2**	**12.4**	..	..	..	..	..	..	**5.8**
Year Extremes	..	..	..	**40.8**	**4/1/1976**	**–2.8**	**11/7/81 and 25/6/72**	**–7.7**	**24/6/1963**	..

(a) 1/1886 and 1/1899
NOTE: Figures such as 4/76, 9/37, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century.

HUMIDITY, RAINFALL AND FOG

	Rel. hum. (%)		*Rainfall (millimetres)*								
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record	86	86	105	105		101		101	101		73
January	59	53	48	11	150	(1893)	4	(1958)	75	30/16	0.1
February	63	55	40	10	171	(1964)	3	(1914)	56	1/54	Nil
March	66	55	47	11	255	(1946)	7	(1943)	88	17/46	0.2
April	70	59	53	12	248	(1960)	2	(1904)	132	23/60	0.3
May	76	63	49	14	214	(1958)	4	(1913)	47	3/73	1.2
June	79	68	57	14	238	(1954)	2	(1979)	147	7/54	1.6
July	78	66	53	15	157	(1974)	4	(1950)	64	18/22	1.3
August	74	60	52	15	161	(1946)	8	(1892)	65	2/76	0.6
September	66	56	53	15	201	(1957)	10	*(a)*	156	15/57	0.2
October	62	56	63	16	193	(1947)	9	(1982)	66	4/06	0.1
November	60	55	56	14	188	(1885)	9	*(b)*	94	30/85*	0.1
December	59	58	57	13	206	(1985)	5	*(c)*	85	5/41	0.1
Year Totals	..	..	**628**	**160**		..		..	..	..	**5.8**
Year Averages	**68**	**59**	..	..		..		..	..	..	..
Year Extremes	..	..	..	..	**255**	**(3/1946)**	**2**	***(d)***	**156**	**15/9/57**	..

(a) 1891 and 1951. *(b)* 1919 and 1921. *(c)* 1897,1915 and 1931. *(d)* 4/1904 and 6/1979.
NOTE: Figures such as 30/16, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: DARWIN AIRPORT, NORTHERN TERRITORY
(Lat. 12° 25′ S., Long. 130° 52′ E. Height above M.S.L. 31 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

Month	*Mean of 9 a.m and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)*	*Wind (height of anemometer 36 metres)*				*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
		Average (km/h)	*Highest gust speed (km/h)*	*Prevailing direction*					
				9 a.m.	*3 p.m.*				
No. of years of record	95	45	(*c*)29			(*d*)13	45	45	45
January	1,006.4	9.7	100	W	NW	185	15	21	0
February	1,006.4	11.1	96	W	NW	162	11	19	0
March	1,007.6	9.3	107	W	NW	172	11	16	1
April	1,009.6	9.7	117	SE	NW	189	4	9	4
May	1,010.9	10.5	63	SE	E	200	0	5	9
June	1,012.6	10.7	67	SE	E	189	0	3	13
July	1,013.1	9.7	61	SE	E	201	0	3	16
August	1,012.6	9.7	65	SE	NW	203	0	2	15
September	1,012.1	11.0	67	ENE	NW	232	1	2	11
October	1,010.6	10.9	96	NE	NW	254	5	4	6
November	1,008.7	9.1	117	NW	NW	230	12	8	2
December	1,007.4	9.7	217	NW	NW	205	15	15	0
Year **Totals**	..	..	..	..	..	**2,422**	**74**	**105**	**77**
Averages	**1,009.8**	**10.1**	..	**SE**	**NW**	..	..	..	..
Extremes	..	..	**217**	..	..	..	..	..	..

(*a*) Mean number of days when cloud cover equalled or exceeded seven-eighths. (*b*) Mean number of days when cloud cover was less than or equal to one-eighth. (*c*) Several incomplete years. (*d*) Class A Pan.

TEMPERATURE AND SUNSHINE

Month	*Air temperature daily readings (°Celsius)*			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		*Mean daily hours sunshine*
	Mean max.	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	
No. of years of record	45	45	45	(*a*)100		(*a*)100				31
January	31.7	24.7	28.2	37.8	2/82*	20.0	20/92*	..	..	5.6
February	31.4	24.6	28.0	38.3	20/87*	17.2	25/49	..	..	5.9
March	31.8	24.4	28.1	38.9	(*b*)	19.2	31/45	..	..	6.6
April	32.6	23.9	28.3	40.0	7/83*	16.0	11/43	..	..	8.7
May	31.9	21.9	26.9	39.1	8/84*	14.2	28/67	..	..	9.5
June	30.4	19.8	25.1	39.0	17/37	12.1	23/63	..	..	9.9
July	30.3	19.2	24.8	36.7	17/88*	10.4	29/42	..	..	10.1
August	31.2	20.6	25.9	37.0	30/71*	13.6	11/63	..	..	10.2
September	32.4	23.0	27.7	38.9	20/82*	16.7	9/63	..	..	9.8
October	33.0	24.9	29.0	40.5	17/92*	19.4	8/66	..	..	9.4
November	33.1	25.2	29.2	39.6	9/84*	19.3	4/50	..	..	8.4
December	32.5	25.2	28.9	38.9	20/82*	18.3	4/60	..	..	7.2
Year **Averages**	**31.9**	**23.1**	**27.5**	..	..	..	..	..	..	**8.4**
Extreme	..	..	..	**40.5**	**17/10/1892**	**10.4**	**29/7/1942**	..	..	..

(*a*) Years 1882–1941 at Post Office; 1942–1981 at Aerodrome; 1967–1973 at Regional office; sites not strictly comparable.
(*b*) 26/1883 and 27/1883.
NOTE: Figures such as 2/824, 20/92*, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century.

CLIMATIC DATA DARWIN AIRPORT, NORTHERN TERRITORY — *continued*
(Lat. 12° 25′ S., Long. 130° 52′ E. Height above M.S.L. 31 metres)

HUMIDITY, RAINFALL AND FOG

		Rel. hum. (%)		*Rainfall (millimetres)*							
Month		*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record		41	41	45	45	116	*(a)*	45	116	*(a)*		45
January		82	70	409	21	906	(1981)	136	(1965)	296	7/97*	Nil
February		84	72	355	20	815	(1969)	103	(1959)	250	18/55	Nil
March		83	67	316	19	1,014	(1977)	88	(1978)	241	16/77	Nil
April		75	52	99	9	357	(1953)	1	(1946)	143	4/59	Nil
May		67	43	17	2	299	(1968)	Nil	*(b)*	58	23/79	Nil
June		63	39	2	Nil	41	(1973)	Nil	*(b)*	36	10/02	Nil
July		64	38	1	Nil	10	(1955)	Nil	*(b)*	43	12/00	1
August		68	41	6	1	84	(1947)	Nil	*(b)*	80	2/47	1
September		71	48	18	2	130	(1981)	Nil	*(b)*	71	21/42	Nil
October		71	53	72	6	339	(1954)	Nil	(1953)	95	28/56	Nil
November		74	59	142	12	371	(1964)	17	(1976)	120	19/51	Nil
December		77	65	224	16	665	(1974)	56	(1961)	277	25/74	Nil
	Total	..	..	**1,661**	**108**		..		..	..	..	**2**
Year	**Averages**	**73**	**54**	..	..		..		..	..	..	..
	Extremes	..	..	..	..	**1,014**	**(3/77)**	**Nil**	**(c)**	**296**	**7/1/1897**	..

(a) Highest or lowest, at either Post Office, Aerodrome or Regional Office Sites, Regional Office 1964–1973 only. *(b)* Various years. *(c)* April to October. Various years.
NOTE: Figures such as 7/97*, indicate, in respect of the month of reference, the day and year of occurence. Dates marked with an asterisk (*) relate to the nineteenth century. Bracketed figures indicate year of occurrence.

CLIMATIC DATA: CANBERRA, AUSTRALIAN CAPITAL TERRITORY
(Lat. 35° 19′ S., Long. 149° 11′ E. Height above M.S.L. 577 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDY AND CLEAR DAYS

		Mean of 9 a.m and 3 p.m. atmospheric pressure reduced to mean sea level (hPa)	*Wind (height of anemometer 10 metres)*							
					Prevailing direction					
Month			*Average (km/h)*	*Highest gust speed (km/h)*	*9 a.m.*	*3 p.m.*	*Mean amount evaporation (mm)*	*Mean No. days thunder*	*Mean No. cloudy days (a)*	*Mean No. clear days (b)*
No. of years of record		35	*(c)*23	47	43	43	*(d)*20	47	47	47
January		1,012.1	6.1	121	NW	NW	259	3.9	8	7.3
February		1,013.8	5.3	104	SE	NW	205	3.5	8	6.1
March		1,016.1	4.7	111	SE	NW	172	1.9	9	6.8
April		1,018.9	4.2	106	NW	NW	109	1.1	7	6.7
May		1,019.9	4.5	104	NW	NW	70	0.5	9	6.6
June		1,020.9	4.2	96	NW	NW	48	0.2	10	6.2
July		1,020.4	4.9	102	NW	NW	53	0.1	8	7.1
August		1,018.5	5.6	113	NW	NW	79	0.8	8	6.7
September		1,017.4	6.0	107	NW	NW	110	1.5	8	7.6
October		1,015.1	6.4	121	NW	NW	157	2.5	9	5.9
November		1,012.7	6.6	128	NW	NW	195	3.5	9	5.1
December		1,011.0	6.8	106	NW	NW	261	3.7	8	6.7
	Totals	..	..	..	..	..	**1,718**	**23.2**	**101**	**78.8**
Year	**Averages**	**1,016.4**	**5.4**	..	**NW**	**NW**	..	..	..	**6.6**
	Extremes	..	..	**128**	..	..	..	..	..	..

(a) Mean number of days when cloud cover equalled or exceeded seven-eighths. *(b)* Mean number of days when cloud cover was less than or equal to one-eighth. *(c)* Recorded at Yarralumla, where a cup anemometer was installed up to 1980. *(d)* Class A Pan.

CLIMATIC DATA: CANBERRA, AUSTRALIAN CAPITAL TERRITORY — *continued*
(Lat. 35° 19′ S., Long. 149° 11′ E. Height above M.S.L. 577 metres)

TEMPERATURE AND SUNSHINE

	Air temperature daily readings (°Celsius)			*Extreme air temperature (°Celsius)*				*Extreme temperature (°Celsius)*		
Month	*Mean max.*	*Mean min.*	*Mean*	*Highest max.*	*Date*	*Lowest min.*	*Date*	*Lowest terrestrial min.*	*Date*	*Mean daily hours sun-shine*
No. of years of record	47	47	47		47		47		36	12*(a)*
January	27.7	12.9	20.3	41.4	31/68	1.8	1/56	–0.4	1/56	9.7
February	26.9	12.9	19.9	42.2	1/68	3.0	16/62	–0.5	9/80	9.3
March	24.4	10.7	17.5	36.5	8/83	–1.1	24/67	–4.0	*(b)*	7.8
April	19.6	6.5	13.1	32.6	*(c)*	–3.6	*(d)*	–8.3	24/69	7.3
May	15.1	2.9	9.0	24.5	10/67	–7.5	30/76	–11.0	17/79	5.5
June	12.0	0.8	6.4	20.1	3/57	–8.5	8/57	–13.4	25/71	5.4
July	11.1	–0.3	5.4	19.7	29/75	–10.0	11/71	–15.1	11/71	5.7
August	12.8	0.8	6.8	24.0	30/82	–7.8	6/74	–13.0	3/79	6.7
September	15.9	2.9	9.4	28.6	26/65	–6.4	10/82	–10.7	10/82	7.3
October	19.1	5.9	12.5	32.7	13/46	–3.3	4/57	–7.0	1/82	8.3
November	22.5	8.4	15.5	38.8	19/44	–1.8	28/67	–6.3	28/67	8.9
December	26.0	11.1	18.5	38.8	21/53	1.1	18/64	–3.9	18/64	9.3
Averages	**19.4**	**6.3**	**12.9**	..	..	..	..	..	..	**7.6**
Year Extremes	..	..	..	*(e)***42.2**	**1/2/68**	**–10.0**	**11/7/71**	**–15.1**	**11/7/71**	..

(a) Composite of Airport and city. *(b)* 30/58 and 24/67. *(c)* 12/68 and 4/86. *(d)* 27 and 28/78. *(e)* 42.8 recorded at Acton on 11/1/39.
NOTE: Figures such as 31/68, 1/56, indicate, in respect of the month of reference, the day and year of occurence.

HUMIDITY, RAINFALL AND FOG

	Rel. hum. (%)		*Rainfall (millimetres)*								
Month	*9 a.m. mean*	*3 p.m. mean*	*Mean monthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*	*Date*	*Mean No. days fog*
No. of years of record	47	47	47	47		47		47	47		47
January	60	34	60	8	185	(1984)	1	(1947)	95	12/45	1.0
February	66	39	57	7	148	(1977)	Nil	(1968)	69	20/74	1.0
March	68	41	54	7	312	(1950)	1	(1954)	92	21/78	2.7
April	75	46	50	8	164	(1974)	1	(1980)	75	2/59	4.1
May	81	55	48	9	150	(1953)	Nil	(1982)	96	3/48	7.8
June	84	60	37	9	126	(1956)	4	(1979)	45	25/56	8.1
July	84	58	39	10	104	(1960)	4	*(a)*	35	10/57	7.8
August	78	53	49	12	156	(1974)	7	(1944)	48	29/74	5.2
September	72	49	52	11	151	(1978)	6	(1946)	43	8/78	3.9
October	65	47	69	11	161	(1976)	2	(1977)	105	21/59	3.0
November	60	40	62	9	135	(1961)	Nil	(1982)	68	19/86	1.3
December	57	34	49	8	215	(1947)	Nil	(1967)	87	30/48	0.7
Totals	..	..	**626**	**109**		..		..	..	..	**46.6**
Year Averages	**71**	**46**	..	..		..		..	..	..	..
Extremes	..	..	..	..	**312**	**(3/50)**	**Nil**	**(*b*)**	**105**	**21/10/59**	..

(a) 1970 and 1982. *(b)*12/67, 2/68, 5/82 and 11/82.
NOTE: Data shown in the above tables relate to the Canberra Airport Meteorological Office, except where otherwise indicated, and cover years up to 1987.
Figures such as 12/45, indicate, in respect of the month of reference, the day and year of occurence.

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DEMOGRAPHY

THE POPULATION OF AUSTRALIA

By June 1986 the estimated resident population of Australia had passed the 16 million mark, reaching 16,468,600 by March 1988. Despite the continuous growth in population throughout the years since European settlement, the rate at which the growth has occurred has varied considerably. The statistics in this chapter are derived from population censuses, registers of births, deaths and marriages, court records of divorces and other records such as passenger cards from international travel and family allowance transfers.

Estimates of the Aboriginal population at the time of European settlement vary considerably but recent archaeological finds suggest that a population of 750,000 could have been sustained. Since European settlement, the Aboriginal population has suffered considerable decline, although to what extent is unclear. Section 127 of the Constitution required the exclusion of Aboriginals when estimating the population of the Commonwealth or of a State or other part of the Commonwealth. This provision was repealed with the proclamation of the *Constitution Alteration (Aboriginals) Act 1967* and, since 10 August 1967, population and vital statistics have included full-blooded Aboriginals. Additionally, population estimates back to 30 June 1961 have been revised to include Aboriginals.

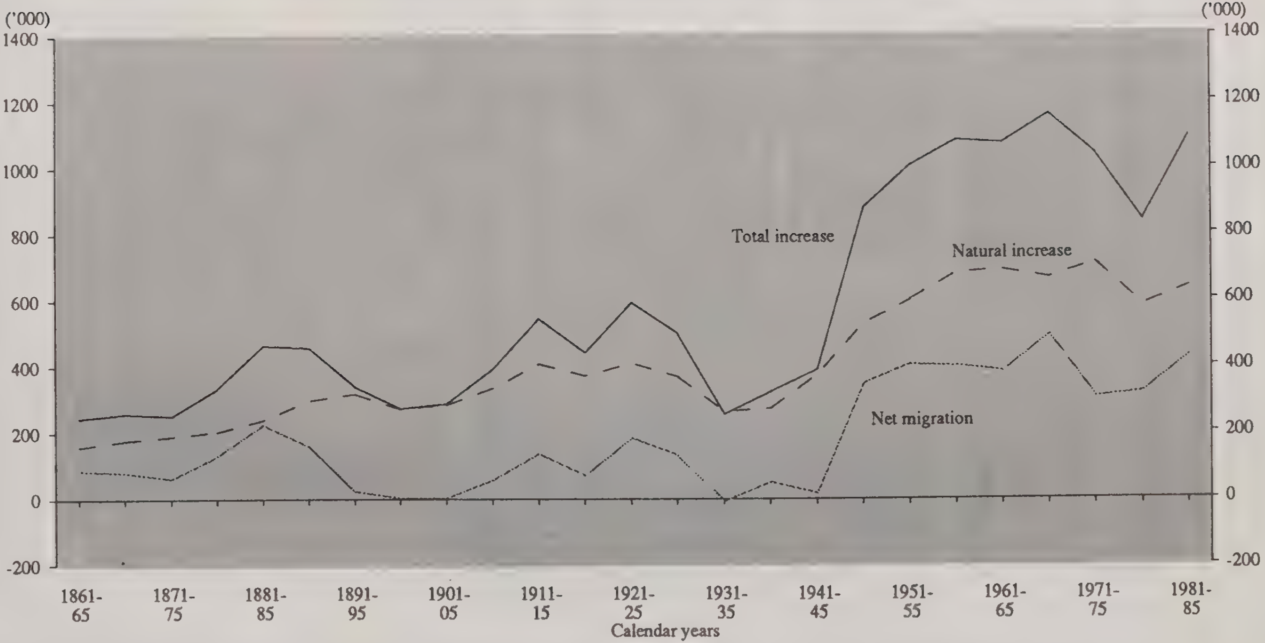
Size and Growth of the Australian Population

AUSTRALIAN POPULATION GROWTH SINCE EUROPEAN SETTLEMENT, TIME ELAPSED BETWEEN SUCCESSIVE MILLIONS, 1788–1986

Population (a)	*Year attained*	*Interval since previous million attained*		*Average annual rate of population growth*
		Years	Months	Per cent
One million	1858	70		..
Two million	1877	19		3.7
Three million	1889	12		3.4
Four million	1905	16		1.8
Five million	1918	13		1.7
Six million	1925	7		2.6
Seven million	1939	14		1.1
Eight million	1949 (November)	10		1.3
Nine million	1954 (August)	4	9	2.5
Ten million	1959 (March)	4	7	2.3
Eleven million	1963 (December)	4	9	2.0
Eleven million	1963 (October)	..	..	..
Twelve million	1968 (June)	4	8	1.9
Thirteen million	1972 (September)	4	3	1.9
Thirteen million	1971 (March)	..	..	..
Fourteen million	1976 (March)	5	—	1.5
Fifteen million	1981 (October)	5	7	1.2
Sixteen million	1986 (June)	4	8	1.3

(a) For population estimation purposes, estimates prior to 1961 exclude full-blood Aboriginals. Estimates for dates earlier than the 1971 Census are based on census counts (actual location) and contain no adjustments for census under-enumeration. Estimates for 1971 and subsequent years are estimated resident population. The attainment of the eleventh million is shown both excluding and including full-blood Aboriginals and the attainment of the thirteenth million is shown both on an actual location basis and an estimated resident population basis.

POPULATION INCREASE AND COMPONENTS OF INCREASE, 1861 - 1985



Note: Full-blood Aboriginals excluded prior to 1961. Deaths and migration of troops excluded during 1939-1947. Break in continuity of total increase between 1966-70 and 1971-75 due to the introduction of the estimated resident population series. Commencing 1971, the total increase includes an adjustment for intercensal discrepancy. Commencing 1976, net migration includes an adjustment for 'category jumping', persons whose duration of stay (category) differs from their stated intention at the time of arrival or departure.

The population of Australia now exceeds 16 million. The increase from 15 to 16 million took approximately 4 years and 10 months, compared with the 70 years it took to reach the first million, achieved in 1858, and the 19 years to reach the second million in 1877. The shortest period for a population growth of 1 million was 4 years and 3 months, when the population reached 13 million in 1972. The previous table shows the growth of the Australian population since European settlement and clearly indicates the variety in growth rates.

Since 1788, four periods in particular experienced high rates of growth. The first of these occurred during the gold rush of the 1850s, when the population doubled from 0.5 million in 1852 to 1 million in 1858. Subsequent economic diversification and pastoral expansion led to the second period of rapid population growth during the prosperity of the 1850s, when the population increased by 1 million in the 12 years between 1877 and 1889, with average annual growth rates of 3.4 per cent.

Both the third and fourth phases of rapid growth occurred during the present century, after World War I and World War II respectively. Between 1918 and 1925, the population grew by 1 million, with average annual growth rates rising from 1.7 per cent in the pre-war period to 2.6 per cent during 1918–25, before falling to 1.1 per cent during the economic depression of the 1930s. The boom in population growth after World War II continued until the early 1970s, with annual growth rates averaging 2.1 per cent between 1946 and 1970. After reaching 8 million in 1949 the addition of each successive million took less than 5 years and, in 1972, the population stood at 13 million.

Until the 1860s, net migration was the major component of population growth, but since that time natural increase has been the dominant factor, providing 69.3 per cent of the increase between 1861 and 1985. Nevertheless, the importance of natural increase to population growth was greater during the period prior to World War II, contributing 83.3 per cent of total increase between 1901 and 1945, but only 62.4 per cent between 1946 and 1985.

Changes to the level of net migration have influenced the rate of population growth. Periods of rapid growth have included a large net migration component, 73.0 per cent in the 1850s, 40.1 per cent in the 1880s, 31.0 per cent in the first half of the 1920s and 39.1 per cent between 1946 and 1970. Conversely, the rate of population increase has fallen when net migration levels have dropped—during the economic depressions of the 1890s and 1930s, both World War I and World War II and, more recently, during the recession of the 1970s.

During the 1970s, population growth slowed as both net migration and natural increase declined, with average annual growth rates falling from 1.9 per cent at the end of the 1960s to 1.2 per cent between 1976–81. Natural increase stabilised more recently, while net migration generally increased and average annual growth rates have increased slightly in the 1980s to 1.4 per cent.

Population Distribution

The population of Australia is concentrated in capital and other major cities, mainly on the south and east coasts of the continent. This results from a variety of factors including climate, physical characteristics of the continent, changing agricultural practices, exploitation of mineral resources and personal preference.

Historically the Australian colonies relied on shipping as a major form of transportation, both between themselves and with Britain. Subsequent economic developments throughout the 19th century, such as the development of an export economy based on wool, gold and wheat, together with a continuing dependence on imports, ensured the predominance of capital cities located on or close to coastal ports.

The tendency of settlement to concentrate along the coastal strip was exacerbated initially by difficulties in traversing the coastal range of New South Wales. The arid nature of much of inland Australia militated against the viability of small-scale intensive farming techniques beyond the coastal areas.

In 1850, some 80.0 per cent of the population was estimated to be living in the older settlements of New South Wales and Tasmania, with most of the remaining population residing in South Australia. However, the gold discoveries of the 1850s attracted a wave of overseas migrants to the south-eastern corner of the continent, particularly to the Victorian goldfields. This pattern of settlement has continued since that time. In 1987, 62.0 per cent of the Australian population was living in New South Wales, Victoria and the Australian Capital Territory. The Australian Capital Territory had the highest population density of the States and Territories at 110.9 persons per square kilometre, followed by Victoria at 18.5 and New South Wales at 7.0. These figures contrast sharply with densities in Western Australia and the Northern Territory of 0.6 and 0.1 persons per square kilometre respectively.

POPULATION OF AUSTRALIA, STATES AND TERRITORIES(a)

Date	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1828— November	36,598	..	..	..	..	..	..	..	..
1833— 2 September	60,794	..	..	..	..	..	..	..	..
1836— 2 September	77,096	..	..	..	..	..	..	..	..
1841— 2 March	130,856	..	..	..	..	..	..	..	..
27 September	..	..	..	..	..	50,216	..	..	..
1844—26 February	..	..	..	17,366	..	..	..	..	..
1846—26 February	..	..	..	22,390	..	..	..	..	..
2 March	189,609	..	..	..	..	..	..	..	..
1847—31 December	..	..	..	..	..	70,164	..	..	..
1848—10 October	..	..	..	..	4,622	..	..	..	..
1851— 1 January	..	..	..	63,700	..	..	..	..	..
1 March	268,344	..	..	..	..	70,130	..	..	..
1854—26 April	..	(b)234,298	..	..	..	..	..	..	..
30 September	..	..	..	..	11,743	..	..	..	..
1855—31 March	..	..	..	85,821	..	..	..	..	..
1856— 1 March	269,722	..	..	..	..	..	..	..	..
1857—29 March	..	408,998	..	..	..	..	..	..	..
31 March	..	..	..	..	..	81,492	..	..	..
1859—31 December	..	..	..	..	14,837	..	..	..	..
1861— 7 April	350,860	538,628	(b)30,059	126,830	..	89,977	..	..	..
1864— 1 January	..	..	61,467	..	..	..	..	..	..
1866—26 March	..	..	..	163,452	..	..	..	..	..
1868— 2 March	..	..	99,901	..	..	..	..	..	..
1870— 7 February	..	..	..	..	..	99,328	..	..	..
31 March	..	..	..	..	24,785	..	..	..	..
1871— 2 April	502,998	730,198	..	185,626	..	..	..	..	..
1 September	..	..	120,104	..	..	..	..	..	..
1876—26 March	..	..	..	213,271	..	..	..	..	..
1 May	..	..	173,283	..	..	..	..	..	..
1881— 3 April	749,825	861,566	213,525	276,414	29,708	115,705	(c)3,451	..	2,250,194
5 April 1891	1,127,137	1,140,088	393,718	315,533	49,782	146,667	4,898	..	3,177,823
31 March 1901	1,354,846	1,201,070	498,129	358,346	184,124	172,475	4,811	..	3,773,801
3 April 1911	1,646,734	1,315,551	605,813	408,558	282,114	191,211	3,310	(b)1,714	4,455,005
4 April 1921	2,100,371	1,531,280	755,972	495,160	332,732	213,780	3,867	2,572	5,435,734
30 June 1933	2,600,847	1,820,261	947,534	580,949	438,852	227,599	4,850	8,947	6,629,839
30 June 1947	2,984,838	2,054,701	1,106,415	646,073	502,480	257,078	10,868	16,905	7,579,358
30 June 1954	3,423,529	2,452,341	1,318,259	797,094	639,771	308,752	16,469	30,315	8,986,530
30 June 1961	3,917,013	2,930,113	1,518,828	969,340	736,629	350,340	27,095	58,828	10,508,186
30 June 1966	4,237,901	3,220,217	1,674,324	1,094,984	848,100	371,436	56,504	96,032	11,599,498
30 June 1971	4,725,503	3,601,352	1,851,485	1,200,114	1,053,834	398,073	85,735	151,169	13,067,265
30 June 1976	4,959,588	3,810,426	2,092,375	1,274,070	1,178,342	412,314	98,228	207,740	14,033,083
30 June 1981	5,234,889	3,946,917	2,345,208	1,318,769	1,300,056	427,224	122,616	227,581	14,923,260
30 June 1986	5,531,526	4,160,856	2,624,595	1,382,550	1,459,019	446,473	154,421	258,910	16,018,350
30 June 1987	5,612,244	4,208,946	2,676,765	1,394,154	1,500,507	447,941	156,674	266,088	16,263,319

(a) Figures prior to 1971 are census counts. The estimates from June 1971 are estimated resident populations at census dates. Figures prior to 1966 exclude full-blood Aboriginals. *(b)* Previously included with New South Wales. *(c)* Previously included with South Australia.

Discovery and exploitation of mineral resources have not only encouraged immigration from overseas, but have affected the distribution of population internally. Discoveries of gold in Queensland in the 1870s and Western Australia in the 1890s encouraged interstate migration from the south-eastern States, and particularly from Victoria and South Australia during the economic recession of the 1890s. This pattern of interstate migration to Queensland and Western Australia was repeated during the 1960s mineral boom in those States. However, the rank order of the States by population numbers in 1901 (New South Wales, Victoria, Queensland, South Australia, Western Australia and Tasmania) remained the same until 1982 when the population of Western Australia surpassed that of South Australia.

In June 1987, 70.5 per cent of the Australian population lived in the combined State capitals, the national capital and Darwin, and four other major cities of 100,000 or more persons (capital city statistical divisions and statistical districts). Although urban populations are not strictly comparable due to changes in classification, the proportions of New South Wales and Victorian populations residing in the metropolitan areas of Sydney and Melbourne at the 1871 Census were 26.7 per cent and 28.9 per cent respectively, while one hundred years later these proportions were estimated to be 63.8 per cent and 71.5 per cent.

Between 1921 and 1947, 71.1 per cent of the intercensal population increase was within capital cities, and this proportion increased to 81.0 per cent between 1947 and 1981. With the continuing development of urban industrialisation in the 20th century, capital cities have been the consistent choice for settlement of the majority of overseas immigrants, as well as receiving centres in the general internal trend towards rural to urban migration which persisted until recent times. This trend was already established by the 1890s as changing technological and marketing conditions associated with agricultural practices reduced the potential for labour force absorption to below the level of natural increase. By the 1930s, the population in rural areas had declined, not only as a proportion of the total population, but also in absolute numbers.

URBAN–RURAL DISTRIBUTION OF POPULATION AT SELECTED CENSUS DATES, AUSTRALIA(a)

(per cent(b))

Census Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
				URBAN					
1921	67.8	62.3	52.1	60.0	59.3	50.5	36.2	—	62.1
1947	71.9	71.0	59.7	69.4	64.6	58.9	23.4	89.7	68.7
1954	82.6	81.3	73.0	74.5	71.0	65.9	65.9	93.3	78.7
1961	85.1	84.8	75.9	78.8	73.2	70.4	39.6	96.0	81.7
1966	86.4	85.5	76.4	82.4	75.7	70.3	53.4	96.1	82.9
1971	88.6	87.7	79.4	84.6	81.5	74.2	64.1	97.8	85.6
1976	88.7	87.9	80.2	84.9	83.5	74.9	66.4	98.4	86.0
1981	88.2	87.8	79.1	84.9	84.6	75.1	74.2	99.0	85.7
1986	87.9	88.1	78.9	84.6	84.7	74.5	72.0	99.1	85.4
				RURAL					
1921	31.6	37.3	47.5	39.4	39.1	49.2	62.1	99.7	37.4
1947	27.9	28.9	40.1	30.3	34.9	40.9	75.4	10.4	31.1
1954	17.2	18.4	26.8	25.2	28.7	33.9	32.7	6.7	21.0
1961	14.6	15.0	24.0	20.8	26.4	29.4	59.9	4.0	18.1
1966	13.4	14.4	23.5	17.5	23.9	29.6	46.1	3.9	16.9
1971	11.3	12.2	20.4	15.3	18.2	25.7	35.4	2.2	14.3
1976	11.1	12.1	19.7	15.0	16.3	24.9	33.0	1.6	13.9
1981	11.8	12.1	20.8	15.1	15.3	24.8	25.3	1.0	14.2
1986	12.0	11.9	21.0	15.3	15.0	25.4	27.8	0.9	14.5

(a) Census counts by State of enumeration. Excludes full-blood Aboriginals prior to 1961. *(b)* Urban and rural proportions do not add up to 100 per cent as the proportion of migratory population is not included.

Between the 1976 and 1986 Censuses, the proportion of the population living in rural areas actually increased from 13.9 per cent to 14.5 per cent, while the proportion of State populations living in the capital cities of Sydney, Melbourne and Brisbane declined slightly. Parallel with this has been an emerging trend since the 1970s towards selective rapid growth of smaller coastal towns in Queensland, New South Wales and Victoria which have favoured the development of retirement, recreation and tourist amenities.

POPULATION OF CAPITAL CITIES, AUSTRALIA

	1921(a)	*1947(a)*	*1961(a)*	*1971(a)*	*1976(b)*	*1981(b)*	*1986(b)*
POPULATION (PERSONS)							
Sydney	899,059	1,484,004	2,183,704	2,935,937	3,143,750	3,279,500	3,472,700
Melbourne	766,465	1,226,409	1,914,011	2,503,022	2,723,700	2,806,300	2,931,900
Brisbane	209,946	402,030	621,770	869,579	1,000,850	1,096,200	1,196,000
Adelaide	255,375	382,454	588,093	842,693	924,060	*(c)*954,300	*(c)*1,003,800
Perth	154,873	272,528	420,283	703,199	832,760	922,040	1,050,400
Hobart	52,361	76,534	115,932	153,216	164,400	171,110	179,000
Darwin *(d)*	1,399	2,538	12,326	38,885	44,232	56,478	74,800
Canberra *(e)*	3,873	20,189	65,896	159,003	226,450	246,500	281,000
(f)	2,048	15,156	56,449	142,925	206,550	226,450	257,850
Total (e)	**2,343,351**	**3,866,686**	**5,922,015**	**8,205,534**	**9,060,202**	**9,532,428**	**10,189,600**
PROPORTION OF STATE POPULATION (PER CENT)							
Sydney	42.8	49.7	55.7	63.8	63.4	62.7	62.8
Melbourne	50.1	59.7	65.3	71.5	71.5	71.1	70.1
Brisbane	27.8	36.3	40.7	47.6	47.8	46.7	45.6
Adelaide	51.6	59.2	60.5	71.8	72.5	72.3	72.6
Perth	46.6	54.2	56.3	68.2	70.7	70.9	72.0
Hobart	24.5	29.8	33.1	39.2	39.9	40.1	40.1
Darwin *(d)*	36.2	23.4	27.7	45.0	45.0	46.1	48.4
Canberra *(e)*	79.7	89.7	96.0	99.2	99.4	99.5	99.6
Total	**43.1**	**51.0**	**56.1**	**64.3**	**64.6**	**63.9**	**63.6**

(a) Census counts actual location (not adjusted for under-enumeration). *(b)* Estimated resident population at 30 June. *(c)* Estimate based on Statistical Division boundary as redefined at 30 June 1985. *(d)* Urban area for years 1920 to 1961, Darwin Statistical Division for years 1971 onwards. *(e)* Includes Queanbeyan urban area for years 1921 and 1947, Canberra Statistical District for years 1961 onwards. *(f)* Excluding Queanbeyan.

Age/Sex Profile

During the early years of European settlement the age/sex profile of the non-Aboriginal population was highly irregular, consisting predominantly of young adult males. Although efforts were made from the 1830s to assist families and young single women to migrate to Australia, the gold discoveries of the 1850s and the high rates of economic growth which followed until the late 1880s encouraged the continuance of migration in which males predominated. Net migration figures from 1861 to 1900 show that males outnumbered females almost 2 to 1.

Throughout the latter half of the 19th century, however, rises in natural increase ensured a decline in the overall sex ratio, particularly among the younger age groups. At the 1881 Census, for example, the overall sex ratio was 121 males for every 100 females but stood at 143 for those aged 25 and over and 103 for those under 25 years. The sex ratio continued to decline until after World War II when the male dominated overseas migration intake reversed this trend.

SEX RATIOS, AGE DISTRIBUTION AND MEDIAN AGES OF THE POPULATION AUSTRALIA

	Sex ratios (a)—				
Census	*Ages 15–25*	*Ages 15–44*	*All ages*	*Aust. born*	*O'seas born*
1861	n.a.	n.a.	137.1	*(b)*101.1	*(b)*169.4
1871	n.a.	n.a.	120.7	*(b)*101.7	*(b)*149.0
1881	103.9	118.7	120.8	100.8	153.3
1891	104.8	119.9	115.9	101.4	155.5
1901	101.1	110.4	110.1	100.5	151.3
1911	104.0	106.7	108.0	100.7	152.0
1921	98.9	100.3	103.4	98.6	134.2
1933	103.1	103.2	103.2	99.0	135.0
1947	101.3	101.9	100.4	97.8	127.5
1954	106.2	106.2	102.4	98.1	132.7
1961	106.4	106.7	102.2	98.2	124.7
1966	104.8	106.0	101.4	98.0	117.9
1971	104.4	105.6	101.1	98.0	114.3
1976	102.8	104.3	100.4	97.8	109.5
1981	103.3	103.4	99.6	97.4	107.5
1986	104.1	103.1	99.7	98.1	106.2
1987	104.0	102.9	99.7	98.1	105.8

	Per cent of population aged—				
Census	*0–14*	*15–44*	*45–64*	*65+*	*Median ages(c)*
1861	36.3	62.7		1.0	n.a.
1871	42.1	56.2		1.7	n.a.
1881	38.9	45.5	13.0	2.2	20.1
1891	36.9	47.8	12.3	2.9	21.7
1901	35.1	48.8	12.0	4.0	22.5
1911	31.7	49.1	14.9	4.3	24.0
1921	31.7	46.9	17.0	4.4	25.8
1933	27.5	47.4	18.6	6.5	27.7
1947	25.1	45.6	21.3	8.0	30.7
1954	28.5	43.1	20.0	8.3	30.2
1961	30.2	41.4	19.9	8.5	29.4
1966	29.4	42.2	19.9	8.5	28.2
1971	28.7	43.0	20.0	8.3	27.5
1976	27.0	44.1	20.0	8.9	28.4
1981	25.0	46.1	19.2	9.7	29.6
1986	23.1	47.3	19.1	10.5	31.1
1987	22.6	47.6	19.0	10.7	31.3

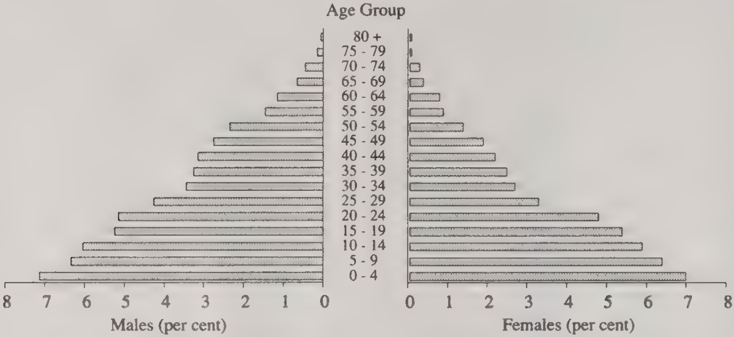
(a) Males per 100 females. *(b)* Figures for birthplace not available for Tasmania, therefore excluded from sex ratios for Australian-born and Overseas-born. *(c)* The median age is the age at which half of the population is older and half is younger.

While the overall sex ratio remained around 102 during the 1950s and 1960s, for the 15–44 year age group the ratio was 106 or more. Both began to fall during the 1970s as migration rates declined and the composition of the migrant intake changed. By 1981, the female population of Australia exceeded the male population, with the sex ratio indicating a definite female bias in the older age groups.

Comparison of the 1881 and 1986 age pyramids clearly shows the extent to which the Australian population has 'aged' during the last 105 years. At the 1881 Census, the median age was 20.1 years. By 1986 it had reached 31.1 years and rose to 31.3 years in 1987. It is projected to increase to between 35.0 and 35.8 years by 2001. Similarly, the proportion of the population aged 65 years and over has increased from 2.2 per cent in 1881 to 10.5 per cent in 1986 and to 10.7 per cent in 1987 while the proportion aged less than 15 years fell from 38.9 per cent to 23.1 per cent and to 22.6 per cent at the same dates.

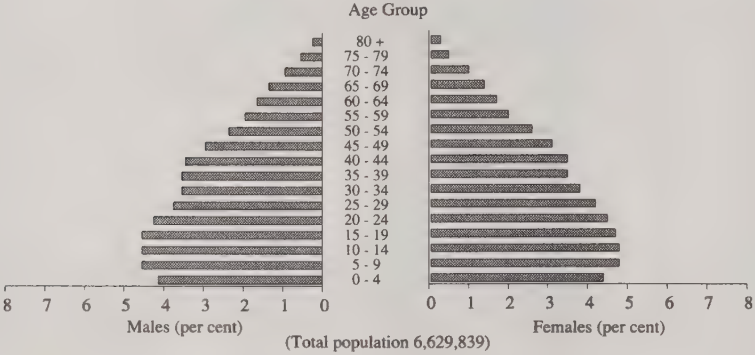
POPULATION AGE PYRAMIDS, AUSTRALIA

1881 CENSUS



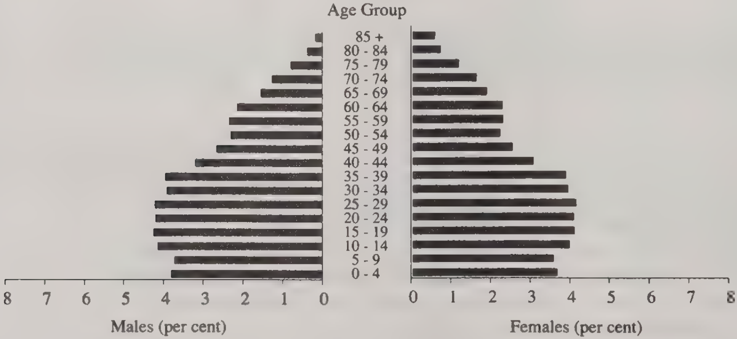
(Total population: 2,250,194)

1933 CENSUS



(Total population 6,629,839)

1986 CENSUS



(Total population 16,018,350)

The change in the age structure over the last century has been due to improvements in life expectancy, and declines in the birth rate, both of which have increased the median age of the population. Declines in fertility are particularly indicated by the undercutting at the base of the age pyramids for 1933 and 1986 in the under 5 age group.

Nevertheless, the trend towards ageing of the population has not been uniform throughout the last century. High levels of migration and rising numbers of births during the 1950s and 1960s both contributed to a temporary decline in the median age, from 30.7 years in 1947 to 27.5 years in 1971, while the proportion aged under 15 increased from 25.1 per cent in 1947 to 30.2 per cent in 1961, as indicated in the previous table.

Rapid declines in fertility and, to a lesser extent, mortality, have contributed significantly to the ageing of the population in the 1970s and 1980s. However, the increase in migration flows as well as emphasis on family migration, have tended to delay this process.

Marital Status

Marriage laws were first enacted in the Australian colonies from the late 1830s. Following Federation the Commonwealth Parliament was given power to legislate concerning marriage, divorce and matrimonial causes. Subsequent amendments were made to the Marriage Act in 1961.

The Marriage Act makes provision, on a uniform basis, in respect of prohibited relations, other grounds for void marriages, legitimation, marriage overseas and premarital education. Dissolution of marriage was covered by separate State and Territory legislation until 1961 when the *Matrimonial Causes Act 1959–66* came into operation. The *Family Law Act 1975* which replaced the Matrimonial Causes Act, came into operation on 5 January 1976 and provides for a single ground for divorce—irretrievable breakdown of marriage—and for nullity of marriage on the ground that the marriage is void.

A major factor influencing marriage rates and therefore the marital status of the population in the first century of European settlement was the availability of partners and, in particular, the sex ratio at marriageable ages.

At the 1851 Census, the New South Wales Statistician reported that 77 per cent of women aged 20 and over in the colony were married, compared with 57 per cent in Great Britain. However, proportions for men aged 20 and over showed 49 per cent married in New South Wales compared with 62 per cent in Great Britain. By the time of the 1881 Census, the proportion of males aged 15 and over ever-married in Australia was 47 per cent compared with 63 per cent of women. The proportion of women never-marrying was lower than for men in every age group, with only 6.6 per cent of women remaining unmarried at ages 40–44 compared with 30.6 per cent of men.

Towards the end of the 19th century, the pattern of high incidence of marriage for women began to change. A number of factors combined to reduce the availability of marriage partners for women, particularly in south-east Australia. Overseas migration virtually ceased during the economic depression of the 1890s and sex ratios for the 15–24 year-olds began to fall, the numbers of males and females being close to equal by 1901. Moreover, the geographical distribution of the sexes differed, with men leaving the south-eastern States in search of work, particularly in the Western Australian goldfields. By 1901 the sex ratio for the 15–24 year-olds was below 100 in Victoria, New South Wales and South Australia, varying throughout Australia between 93 in Victoria to 144 in Western Australia.

In the years following the 1881 Census, the proportion of males who had never married by ages 40–44 declined continually at every census date to about 10 per cent in 1981. For women of the same age group, however, the proportions who never married increased until the 1921 Census, peaking at 17.7 per cent, and did not decline to the low rates of 1881 until 1961. The overall extent of the decline in proportions never-married during the last century has thus been greater for men than for women.

Part of the decline in proportions of never married following the 1933 Census can be accounted for by marriages deferred during the economic depression, but more importantly, there was a shift to marrying at an earlier age.

By 1971, only 10 per cent of men and 5 per cent of women aged 40–44 had never married. Since the 1970s there has been a reversal of these previous trends. The increasing proportions of never married for both sexes in the younger age groups since 1971 can be seen in the above graph. In the decade and a half between 1971 and 1986 there has been an increase in the proportions of never married in the 20–24 year age group by 20 percentage points for males and 28 percentage points for females. At the time of the 1986 Census, the proportions never married had increased for both sexes at most ages between 15 and 40 years, suggesting that there is likely to be an overall increase in the proportions who will ultimately never marry.

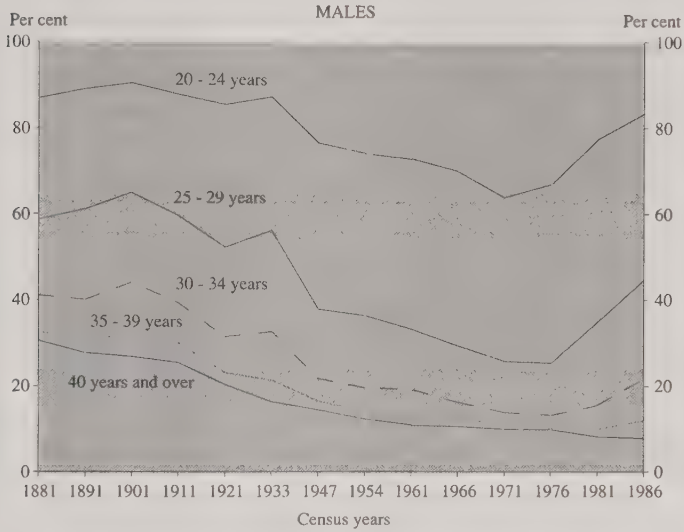
Two changes are noticeable within the distribution of the ever-married population. Firstly, there has been a gradual increase in the proportion of divorced persons since 1901 with a more noticeable increase since 1976 following reforms to the Family Law Act in 1975 (*see also* Vital Statistics Section on divorce). Secondly, while the proportion of widows has increased since the turn of the century, the proportion of widowers has declined. This change needs to be set in the context of improvements to life expectancy and falls in death rates which have been greater for females than males since 1901, thus increasing the likelihood that married women will survive their husbands.

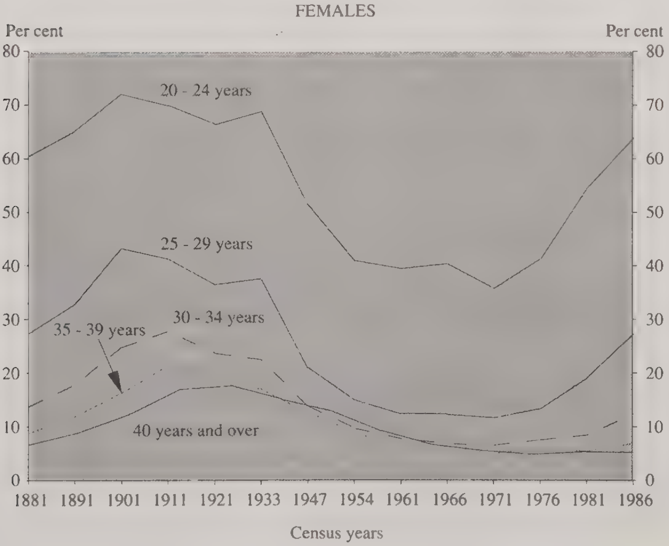
POPULATION AGED 15 AND OVER: MARITAL STATUS BY SEX(a), AUSTRALIA
(per cent)

Census Year	*Never married*		*Married*		*Married but permanently separated*		*Divorced*		*Widowed*	
	Males	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*
1881	53.0	37.0	43.0	54.7	..	..	..	..	4.0	8.4
1891	52.9	38.0	42.8	53.1	..	..	..	..	4.3	8.8
1901	52.1	40.5	43.5	50.0	..	..	0.1	0.1	4.4	9.4
1911	49.7	40.2	46.2	50.8	..	..	0.2	0.2	4.0	8.9
1921	42.5	35.6	52.9	54.8	..	..	0.2	0.2	3.9	9.0
1933	41.7	34.9	53.3	54.6	..	..	0.4	0.5	4.0	9.7
1947	32.8	26.3	59.8	59.2	2.1	2.4	0.9	1.0	4.0	10.9
1954	29.7	21.5	63.7	64.1	1.8	2.1	1.0	1.2	3.5	11.0
1961	29.8	21.1	64.2	64.3	1.9	2.2	1.1	1.2	3.2	11.2
1966	30.6	22.1	63.6	63.2	1.8	2.1	1.1	1.3	3.0	11.4
1971	29.3	20.7	66.5	66.3	1.9	2.1	1.4	1.6	2.9	11.4
1976	29.1	21.1	66.3	62.6	2.3	2.8	2.0	2.5	2.6	11.3
1981	30.9	22.9	63.3	61.6	2.4	2.3	3.3	4.1	2.5	11.1
1986	32.5	24.4	58.6	57.1	2.4	2.8	4.2	5.1	2.4	10.6

(a) Not-stated marital status for 1921, 1933, 1947 and 1954 were: 1921, males 0.5 per cent, females 0.3 percent; 1933, males 0.6 per cent, females 0.3 per cent; 1947, males 0.4 per cent, females 0.4 per cent; 1954, males 0.3 per cent, females 0.2 per cent. Proportions may not total 100 per cent due to rounding. Figures for 'Married but Permanently Separated' included with 'Married' until 1947 Census and 'Divorced' unavailable prior to 1901 Census.

PROPORTION OF PERSONS NEVER MARRIED, CENSUS DATES, AUSTRALIA





Birthplace

After the arrival of European settlers and the numerical decline of the Aboriginal population, the British rapidly became the most populous birthplace group in Australia. However, by the 1860s, natural increase had become the major component in population growth and by the 1870s, the majority of the population were born in Australia. Thereafter, the overseas-born declined as a proportion of the total population until after World War II, when there was a reversal of the trend. In 1881, the overseas-born comprised 36.8 per cent of the population; by 1947 this had fallen to 9.8 per cent while numbers declined from over 1,000,000 at the 1891 Census, following the immigration boom of the 1880s, to 744,200. By 1986, however, the overseas-born had increased to 20.8 per cent of the total population, numbering 3,247,381.

MAJOR BIRTHPLACE GROUPS, AUSTRALIA, SELECTED CENSUS DATES

Birthplace	*1881*	*1901*	*1947*	*1954*	*1971*	*1981*	*1986*
				—number—			
Africa	*(a)*	2,869	7,537	15,826	61,935	90,237	108,547
America	*(a)*	12,507	11,630	14,496	55,752	96,247	116,459
Asia	*(a)*	47,014	24,096	51,581	167,226	371,588	536,152
Europe	*(a)*	753,832	651,606	1,155,064	2,196,478	2,232,718	2,221,802
UK and Eire	689,642	679,159	541,267	664,205	1,088,210	1,132,601	1,127,196
Germany	*(a)*	38,352	14,567	65,422	110,811	110,758	114,810
Greece	*(a)*	878	12,291	25,862	160,200	146,625	137,637
Italy	*(a)*	5,678	33,632	119,897	289,476	275,883	261,878
Yugoslavia	*(a)*	*(b)*	5,866	22,856	129,816	149,335	150,040
Other Europe	*(a)*	29,765	43,983	256,822	417,965	417,516	430,241
New Zealand	*(a)*	25,788	43,610	43,350	80,466	176,713	211,670
Other	137,827	15,566	5,708	6,149	17,461	36,331	52,751
Overseas	*827,469*	*857,576*	*744,187*	*1,286,466*	*2,579,318*	*3,003,834*	*3,247,381*
Australia	*1,422,725*	*2,908,303*	*6,835,171*	*7,700,064*	*10,176,320*	*11,393,861*	*12,110,456*
Not stated	..	*7,922*	..	..	..	*178,635*	*244,319*
Total	**2,250,194**	**3,773,801**	**7,579,358**	**8,986,530**	**12,755,638**	**14,576,330**	**15,602,156**
				— per cent —			
Africa	*(a)*	0.1	0.1	0.2	0.5	0.6	0.7
America	*(a)*	0.3	0.2	0.2	0.4	0.7	0.7
Asia	*(a)*	1.2	0.3	0.6	1.3	2.5	3.4
Europe	*(a)*	20.0	8.6	12.9	17.2	15.3	14.2
UK and Eire	30.6	18.0	7.1	7.4	8.5	7.8	7.2
Germany	*(a)*	1.0	0.2	0.7	0.9	0.8	0.7
Greece	*(a)*	*(b)*	0.2	0.3	1.3	1.0	0.9
Italy	*(a)*	0.2	0.4	1.3	2.3	1.9	1.7
Yugoslavia	*(a)*	*(b)*	0.1	0.3	1.0	1.0	1.0
Other Europe	*(a)*	0.8	0.6	2.9	3.3	2.9	2.8
New Zealand	*(a)*	0.7	0.6	0.5	0.6	1.2	1.4
Other	6.1	0.4	0.1	0.1	0.1	0.2	0.3
Overseas	*36.8*	*22.7*	*9.8*	*14.3*	*20.2*	*20.6*	*20.8*
Australia	*63.2*	*77.1*	*90.2*	*85.7*	*79.8*	*78.2*	*77.6*
Not stated	..	*0.2*	..	..	..	*1.2*	*1.6*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Included in 'other', except for UK and Eire. *(b)* Included in 'Other Europe'. Percentage distribution may not equal totals due to rounding error.

The composition of the overseas-born population between 1788 and 1947 remained predominantly British, although the gold rush in the 1850s encouraged the proliferation of a wider range of nationalities. For example, in Victoria non-British subjects increased from 1,500 to 46,000 between the 1851 and 1861 Censuses and one man in five was estimated to be Chinese at some of the gold diggings.

This diversification was short-lived. Many of the miners were transients who subsequently left for the New Zealand goldfields, while restrictive immigration practices imposed during the second half of the 19th century, curtailed Chinese and other non-European migration. By the 1891 Census, following high levels of immigration during the 1880s, 81.7 per cent of the overseas-born were from the United Kingdom and Ireland, comprising 25.7 per cent of the Australian population at the time, while the other larger birthplace groups—Germany and China—comprised only 1.4 per cent and 1.1 per cent of the Australian population respectively.

With the adoption of the 'White Australia' policy after Federation, and emphasis on United Kingdom migration throughout the first half of this century, the extent of representation of other overseas birthplace groups in the Australian population diminished further. By 1947, 97.9 per cent of the Australian population were either born in Australia or the United Kingdom, Ireland or New Zealand. The largest non-British overseas-born group, the Italians, comprised only 0.4 per cent of the population (33,600), while the number of overseas-born Chinese had fallen from 36,000 in 1891 to 6,400 by 1947.

Since 1947, not only has the decline of the overseas-born population been reversed, significant changes have taken place in the composition of that group. The progressive removal of immigration restrictions based on country of origin, race or colour between 1949 and 1973, together with the extension of assisted migration schemes to some non-British groups and refugees, have ensured a greater diversity of ethnic origin among the Australian population (*see also* section on Overseas Migration). The relative size of overseas-born groups from the United Kingdom, Eire and New Zealand combined, increased only slightly as a proportion of the total population between 1947 and 1986, from 7.7 per cent to 8.6 per cent. However, overseas-born persons from other countries increased from 2.1 per cent to 13.8 per cent during the same period. Overseas birthplace groups comprising 0.1 per cent or more of the total population—apart from the United Kingdom, Eire and New Zealand—increased in number from 4 in 1947 to over 30 in 1986.

The largest overseas-born group at the present time remains those born in the United Kingdom and Ireland, having more than doubled in number from 541,300 to 1,127,200 between 1947 and 1986. By comparison, the second largest overseas-born group, Italians, comprised only 1.7 per cent of the Australian population in 1986 (261,900). Eight of the first nine large overseas-born groups are European, the exception being New Zealand which comprised 1.4 per cent of the population and ranked third after Italy in 1986. Although Europe remains the region of origin of the majority of the overseas-born population, European-born persons declined as a proportion of the total Australian population between 1971 and 1986, while persons born in other regions increased their share. Between 1971 and 1986, the European-born population increased by only 39,000 compared with an increase of 369,000 in the Asian-born group.

The proportion of the Australian population born in Asia has increased continually from 0.3 per cent in 1947 to 3.4 per cent in 1986. As recently as 1966, however, only two Asian birthplace groups had populations amounting to more than 0.1 per cent of the Australian population, namely China and India. By 1986 this number had increased to twelve. Sources of the largest Asian-born populations in 1986 were Vietnam (83,040), Lebanon (56,340), India (47,820) and Malaysia (47,800), comprising 0.5, 0.4, 0.3, and 0.3 per cent of the Australian population respectively.

In 1986, 77.6 per cent of the population was born in Australia. Of these, 74.9 per cent reported Australia as the birthplace of both their parents. This implies that 58.1 per cent of the total population of Australia are at least second generation Australians. A further 13.7 per cent of the Australian-born population (10.6 per cent of the total population) had one parent born in Australia. Conversely, 41.9 per cent of the total population were either born overseas or had at least one parent born overseas,

BIRTHPLACE OF PARENTS OF AUSTRALIAN-BORN PERSONS, AUSTRALIA, CENSUS 1986

Birthplace of parents	*Numbers*	*Percentage*
Both parents born in Australia	9,070,739	74.9
1 parent born in Australia, 1 born overseas or not stated	1,657,548	13.7
Other	1,382,169	11.4
Total	**12,110,456**	**100.0**

Citizenship

The grant of citizenship is controlled by the *Australian Citizenship Act 1948*. Prior to 26 January 1949, aliens who were naturalised became British subjects and, with the introduction of the Act, all such persons automatically became Australian citizens.

Citizenship may be acquired by birth in Australia provided that at the time of birth one of the parents is an Australian citizen or legal resident of Australia, by birth abroad to an Australian parent, or by grant of citizenship to a person resident in Australia under conditions prescribed in the Act. All persons are now eligible for the grant of Australian citizenship provided that they have resided in Australia for at least two years, are of good character, have an adequate knowledge of English and of the responsibilities and privileges of citizenship, and intend to reside permanently in Australia.

At the 1981 Census, 88.7 per cent of the population were Australian citizens, with 11.9 per cent of these being born overseas. At the 1986 Census the proportion of the population with Australian citizenship was identical to the 1981 level, but the share of those born overseas increased to about 13 per cent.

COUNTRY OF CITIZENSHIP, AUSTRALIA, 1981, 1986

	Persons		*Percentage*	
Country	*1981*	*1986*	*1981*	*1986*
Australia—				
Born in Australia	11,393,861	12,110,456	78.2	76.2
Born overseas	1,537,212	1,726,642	10.5	12.5
Other	1,413,654	1,331,335	9.7	8.5
Not Stated	231,603	433,723	1.6	2.8
Total	**14,576,330**	**15,602,156**	**100.0**	**100.0**

Religion

Details on religious affiliation have been collected in all Australian censuses, however since the 1933 Census, it has been clearly stated on the census form that the question on religion is not obligatory. This clarification resulted in a large increase in the numbers of people responding 'no religion' or simply not answering the question, with these responses combined increasing from 2.4 per cent in 1921 to 13.2 per cent in 1933. By 1986, 25.0 per cent of the population described themselves as either having 'no religion' or did not answer the question.

Census data show that the Australian population is predominantly Christian with the majority associating themselves with the two major groups, the Catholic Church and the Church of England (26.1 per cent and 23.9 per cent respectively at the 1986 Census).

MAJOR RELIGIOUS GROUPS, AUSTRALIA, SELECTED CENSUS DATES
(per cent)

Year	*Church of England*	*Catholic*	*Other Christian*	*Total Christian*	*Non-Christian*	*Not stated or No Religion*	*Total*
1861	(*a*)43.9	22.3	27.4	93.6	6.4		100.0
1901	40.3	23.0	34.2	97.5	1.4	1.0	100.0
1921	43.7	21.6	31.7	96.9	0.7	2.4	100.0
1933	38.7	19.6	28.1	86.4	0.4	13.2	100.0
1947	39.0	20.9	28.1	88.0	0.5	11.5	100.0
1961	34.9	24.9	28.4	88.3	0.7	11.1	100.0
1971	31.0	27.0	28.2	86.2	0.8	13.1	100.0
1981	26.1	26.0	24.3	76.4	1.4	22.3	100.0
1986	23.9	26.1	23.0	73.0	2.0	25.0	100.0

(*a*) Includes Protestant undefined.

The remainder of the Christian population, amounting to 23 per cent of the total population at the 1986 Census, is dispersed between several other groups, with only three denominations consisting of more than 2.0 per cent of the population; the Uniting Church (7.6 per cent), Presbyterian (3.6 per cent) and Orthodox (2.7 per cent).

There has been a slight increase in the proportion of persons of non-Christian religions since 1981, from 1.4 per cent to 2.0 per cent in 1986. At the 1986 Census, Muslims comprised 35.0 per cent of the non-Christian response, Hebrews 20.0 per cent and Buddhists 25.0 per cent.

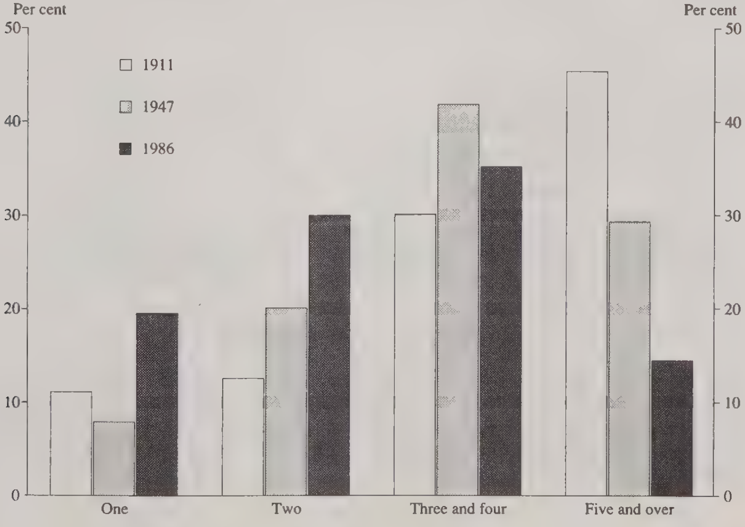
Households

The incidence of household formation in Australia has exceeded population growth rates since 1911, with the average number of persons per household declining from 4.5 in 1911 to 2.9 in 1986. Major declines occurred throughout the period in the numbers and proportion of households with five or more persons. Much of the decline in the number of persons per household this century can be attributed to reductions in completed family size. There has been considerable growth in one and two-person households for most of this period, these households almost doubling as a proportion of all households from 24.1 per cent in 1911 to 47.2 percent by 1981 and to 49.5 per cent at the 1986 Census.

POPULATION IN PRIVATE HOUSEHOLDS, AUSTRALIA

Year	*Persons in private households*	*Private households*	*Persons per private household*
1911	4,055,926	894,389	4.53
1921	4,875,428	1,107,010	4.40
1933	6,164,709	1,509,671	4.08
1947	7,026,760	1,873,623	3.75
1954	8,314,362	2,343,421	3.55
1961	9,870,494	2,781,945	3.55
1966	10,955,250	3,155,340	3.47
1971	12,155,386	3,670,554	3.31
1976	12,942,708	4,140,521	3.12
1981	13,918,445	4,668,909	2.98
1986	14,920,230	5,187,422	2.88

PROPORTION OF HOUSEHOLDS BY SIZE(a), AUSTRALIA



(a) Persons per household

The incidence of household formation and household size has been affected by social and economic factors, such as the availability of mortgage finance schemes repayable in instalments which were introduced shortly before the 1920s as well as demographic changes.

During the 1960s and 1970s, for example, there was an increase in the proportion of the population aged 15–29 years—prime years for household formation as young adults leave the parental home—from 20.6 per cent in 1961 to 25.6 per cent by 1976. This increase resulted both from high birth rates during the post World War II 'baby boom' years after 1947, and high rates of immigration of those aged 20–29 years during the 1960s. The rapid rise in numbers of 15–29 year olds coincided with a period of economic growth and high rates of employment until the 1970s, providing a favourable environment for household formation.

Increases in the number of households have also been affected by a complex combination of factors at older ages. The proportion of the population aged 65 years and over has increased throughout most of the last century, as a result of increases to life expectancy, while both completed family size and age at completion have generally declined. Thus, older families are likely to experience several years of 'empty nesting', that is, time lived in the household without dependants after children leave home. There has been a tendency for increasing numbers of older couples and older persons who are widowed, particularly females, to remain as separate households to a later age—with long-term cumulative affects on the total number of households.

Only a small proportion of households include more than one family, some 3 per cent at the 1981 Census which declined further to 2.4 per cent at the 1986 Census. The 1986 Census indicated that 47.6 per cent of total families had no dependent children and 52.4 per cent had dependent children. Among families with dependent children, 35.9 per cent had one child and 64.1 per cent had two or more dependent children. Single parent families comprised 7.9 per cent of total families and were mostly composed of parent and dependent children (76.3 per cent) and parent and other adult family member present (23.7 per cent).

FAMILY TYPE AND COMPOSITION, AUSTRALIA, 1986

Family Type	*No.*	*Per cent*
Families without dependent children		
Couple	1,271,872	30.6
Couple and adult family member	449,208	10.8
Related adults	258,768	6.2
Families with dependent children		
Couple and 1 dependent child	403,298	9.7
Couple and 2 or more dependent children	1,072,968	25.8
Couple and 1 dependent child and adult family member	206,496	5.0
Couple and 2 or more dependent children and adult family member	171,230	4.1
Single parent and 1 dependent child	124,166	3.0
Single parent and 2 or more dependent children	123,016	3.0
Single parent and 1 dependent child and adult family member	48,054	1.2
Single parent and 2 or more dependent children and adult family member	28,935	0.7
Total families	**4,158,011**	**100.0**

VITAL STATISTICS

Registration of vital events, i.e. births, deaths and marriages, has been compulsory throughout Australia since 1856. The total number of these registrations is available for each year since the 1860s and more detailed information since the 1910s. The number of divorces has been published since 1891, but other details have been published on a consistent basis only since the 1950s.

Births

Current fertility levels in Australia are lower than at any time since European settlement. Crude birth rates declined from 42.6 per thousand population in 1860 to 27.2 in 1901 and to 15.0 in 1987. Australia's current fertility rates, however, are higher than several other industrialised countries in Northern Europe and Japan.

CRUDE BIRTH RATES AND TOTAL FERTILITY RATES, LOW FERTILITY COUNTRIES

	Crude birth rate		*Total fertility rate (a)*	
Country	*1970*	*1980s*	*1970*	*1980s*
Australia	20.6	15.2 (1986)	2.86	1.87 (1986)
Canada	17.4	14.8 (1985)	2.26	1.63 (1985)
Denmark	14.4	10.8 (1986*p*)	1.97	1.44 (1985)
France	16.7	14.1 (1986*p*)	2.47	1.83 (1985)
Federal Republic of Germany	13.3	10.2 (1986*p*)	2.01	1.30 (1985)
Japan	18.8	11.9 (1985)	2.07	1.73 (1985)
New Zealand	22.1	16.3 (1986*p*)	3.16	1.96 (1986)
Norway	16.6	12.6 (1986*p*)	2.49	1.65 (1984)
Sweden	13.7	12.2 (1986*p*)	1.94	1.74 (1985)
Switzerland	15.8	11.7 (1986*p*)	2.09	1.51 (1985*p*)
United Kingdom	16.2	12.9 (1984)	2.38	1.79 (1985)
United States	18.2	15.7 (1985*p*)	2.46	1.81 (1984)

(a) The total fertility rate is the sum of the age-specific birth rates. It represents the number of children that would be born to a female who experienced, throughout her child-bearing life, the age specific rates for the years shown.
Source: United Nations *1986 Demographic Yearbook* New York.

Despite an overall fertility decline, the number of births has shown an increasing trend. This has been caused by a continued increase in the number of women of reproductive ages. However, the rate of increase has varied, with annual average births rising from over 50,000 to 100,000 in the 25 year period between 1861–65 and 1886–90, but taking more than the next 50 years to reach 150,000 by 1944. Birth numbers then increased very rapidly in the immediate post-war period to reach over 200,000 a year by 1952 and exceeded 250,000 per year between 1969 and 1972, reaching a peak of 276,400 in 1971. The sharp rise in births during the late 1960s and early 1970s is due to the 'echo-effect' as children of the post-World War II 'baby-boom' moved into their childbearing years and started their own families. Between 1981 and 1985 the number of births averaged 240,000 annually.

Although fertility decline is evident since the 1860s, this trend has not been continuous, and at times fertility has increased. Major declines continued well into the depression years of the 1930s, but then fertility recovered in the following years to 1961. Despite temporary halts between 1965 and 1971, fertility has generally declined until the present time.

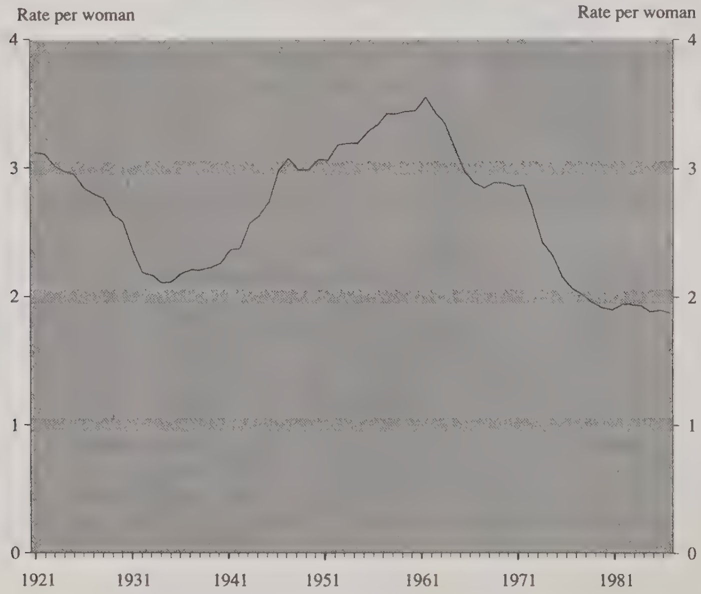
A number of changes occurred from the mid 1930s which contributed to increasing fertility levels until recent times. The proportion of women marrying began to rise, while the proportion remaining childless fell. In the late 1940s, the increasing number of births from these trends coincided with births that had been postponed during World War II. However, high levels of fertility were sustained during the 1950s as the timing of births changed. Women began marrying earlier and having their children at a younger age, which is reflected in the rapid rise of the age-specific birth rate for the 20–24 year age group. In addition birth rates for women up to age 40 remained higher than they had during the early 1930s depression years, resulting in increasing levels of total fertility.

AGE-SPECIFIC BIRTH RATES AND TOTAL FERTILITY: AUSTRALIA (a)

	Age group (years)							
Period	*15–19(b)*	*20–24*	*25–29*	*30–34*	*35–39*	*40–44*	*45–49(c)*	*Total fertility*
				AVERAGE ANNUAL RATES				
			—per '000 women—					per woman
1921–25	27.3	133.7	167.0	137.0	96.9	40.4	4.2	3.032
1926–30	29.7	125.3	152.5	119.3	81.4	33.5	3.6	2.726
1931–35	25.6	101.8	124.1	96.8	61.6	24.8	2.7	2.186
1936–40	24.2	108.4	131.9	98.3	57.6	20.1	2.0	2.213
1941–45	23.9	126.9	152.8	114.3	66.3	21.1	1.7	2.535
1946–50	33.1	164.2	183.3	126.6	72.3	22.7	1.8	3.020
1951–55	39.5	192.8	193.0	123.5	65.1	20.5	1.5	3.180
1956–60	44.2	216.4	211.5	126.1	63.9	19.0	1.5	3 412
1961–65	46.5	204.0	207.2	122.4	59.2	17.5	1.2	3.289
1966–70	49.3	172.7	187.6	103.0	46.9	12.9	1.0	2.867
1971–75	48.0	154.0	166.9	85.0	33.7	8.5	0.6	2.484
1976–80	30.7	116.4	143.9	73.8	23.8	4.8	0.3	1.968
1981–85 *(d)*	25.7	100.8	144.5	82.0	25.4	4.4	0.3	1.915
				ANNUAL RATES				
			—per '000 women—					per woman
1981	28.2	107.5	145.2	77.6	24.5	4.5	0.3	1.938
1982	27.5	104.0	144.9	80.6	25.6	4.6	0.3	1.936
1983	26.6	102.7	145.9	81.5	25.0	4.4	0.2	1.931
1984	23.6	96.0	143.0	83.0	25.6	4.4	0.3	1.879
1985	22.5	94.1	143.4	87.2	25.4	4.4	0.2	1.891
1986	21.8	90.0	141.9	88.7	27.2	4.3	0.2	1.870

(a) Excludes full-blood Aboriginals prior to 1966. *(b)* Includes births to mothers aged less than 15. *(c)* Includes births to mothers aged 50 and over. *(d)* Rates are adjusted for late registrations of New South Wales births in 1984.

TOTAL FERTILITY RATES, AUSTRALIA (a)



(a) Excludes full-blood Aboriginals before 1966.

From the late 1950s and the early 1960s, fertility levels began to decline. In 1961, oral contraception became widely available in Australia contributing to, or accelerating, fertility decline, which was most noticeable among the older age-groups as women began completing child-bearing earlier. Changes to child-bearing patterns also occurred at younger ages. The duration between marriage and first nuptial confinement began to increase, and by 1965 the proportion of women who were pregnant at the time of marriage began to decrease.

MARRIED FEMALES UNDER 45 YEARS OF AGE AT TIME OF MARRIAGE: YEAR MARRIED AND TIMING OF FIRST NUPTIAL CONFINEMENT

	Percentage of married females under 45 years of age at time of marriage							
		Having the first nuptial confinement before the end of a given year of marriage duration (a)						*Number of brides aged under 45 years*
Year of marriage	*Premaritally pregnant (b)*	*1*	*2*	*3*	*4*	*5*	*10*	
				—cumulative per cent—				
1948	14.1	33.8	60.7	72.2	78.3	82.1	88.3	71,867
1949	14.2	34.0	61.6	73.5	80.0	83.9	90.5	69,863
1950	13.9	33.0	60.1	71.7	78.0	81.8	88.1	72,221
1951	13.9	33.2	59.5	70.6	76.6	80.3	86.4	73,718
1952	14.7	34.7	60.7	71.8	77.9	81.7	87.8	70,659
1953	15.7	35.7	61.9	73.3	79.7	83.5	89.9	67,114
1954	16.2	36.0	62.1	73.5	80.0	83.8	90.1	67,585
1955	16.8	36.9	63.5	75.0	81.3	85.1	91.7	68,564
1956	18.0	38.6	65.7	77.2	83.5	87.4	93.9	68,032
1957	18.1	38.5	64.7	75.6	81.8	85.6	91.7	69,983
1958	18.8	39.4	65.5	76.2	82.3	86.0	92.0	70,395
1959	19.8	40.6	66.8	77.6	83.6	87.1	92.8	70,553
1960	21.1	41.8	67.5	78.3	84.4	88.1	93.8	71,679
1961	22.0	42.2	66.9	77.9	84.3	88.2	94.2	72,727
1962	22.5	40.9	64.4	75.9	82.8	87.0	93.2	75,176
1963	23.3	40.0	62.8	75.3	83.1	87.8	94.4	77,031
1964	23.0	37.3	59.3	72.5	80.9	86.2	93.1	82,025
1965	22.0	34.6	55.7	69.4	78.4	83.9	91.1	89,377
1966	21.7	33.5	54.6	69.1	78.7	84.6	91.9	91,718
1967	21.4	32.5	53.6	68.3	78.2	84.2	91.5	95,474
1968	21.1	31.2	51.9	67.0	77.1	82.9	90.8	101,766
1969	20.3	29.6	50.5	65.3	75.3	81.3	89.7	107,798
1970	20.5	29.4	49.5	63.7	73.7	80.0	89.2	111,211
1971	19.8	28.1	46.5	60.6	70.6	77.0	87.0	112,817
1972	18.0	25.5	43.7	57.9	68.0	74.9	86.2	109,007
1973	15.6	22.8	41.0	54.7	64.8	72.0	84.5	107,563
1974	13.4	20.6	38.0	51.5	61.7	69.0	82.4	105,759
1975	12.2	19.3	36.9	50.5	60.8	68.5	82.6	98,951
1976	10.9	18.0	35.0	47.5	57.2	64.5	76.2	103,108
1977	11.1	17.6	34.1	46.9	57.0	64.5	77.4	98,551
1978	11.3	17.7	34.6	47.8	57.8	65.1	—	96,859
1979	11.3	17.7	35.4	48.8	58.7	65.7	—	98,286
1980	11.5	17.9	35.7	48.9	58.6	65.5	—	103,019
1981	11.3	17.9	33.5	48.3	57.8	64.6	—	107,855
1982	10.4	16.8	33.7	46.0	55.3	61.8	—	111,295
1983	9.9	16.0	33.0	45.8	55.0	—	—	108,931
1984	10.1	16.6	34.8	48.1	—	—	—	102,785
1985	9.2	15.4	32.3	—	—	—	—	109,377
1986	8.3	15.0	—	—	—	—	—	108,442

(a) Includes premarital pregnancies. *(b)* Premaritally pregnant comprises wives who delivered their first child within marriage duration of 0–7 completed months.

In the 1970s, fertility declines became obvious across all age-groups, falling rapidly between 1971 and 1980, and marginally since then. This decline has been attributed to demographic, social, economic and attitudinal changes of the 1970s, which individually or collectively influenced fertility behaviour during this period. Between 1971 and 1986, the total fertility rate for all ages declined by 35 per cent. The largest declines in age-specific fertility rates occurred to younger women aged 15–29 years, in particular the 20–24 age group. Compared with women in the 1960s, women in the 1980s are more likely to defer and restrict child-bearing to the middle range of their reproductive years. In 1961–65, 81.0 per cent of births occurred to women aged 20–34. By 1986, the corresponding figure was 86.0 per cent. Women in the 25–29 age group maintained the highest fertility rates.

Concurrent with the downward movement that has occurred in the levels of fertility, the family formation patterns of couples have changed. An increasing proportion of total births has now been occurring outside marriage, and for those occurring within marriage, concentration has been on the first and second order births.

Confinements resulting in ex-nuptial births have increased continually as a proportion of total confinements from the 1950s to the present time increasing from 4.5 per cent in 1956–60 to 16.9 per cent in 1986. The median age of ex-nuptial mothers has been lower than that at first nuptial confinement and it seems likely that ex-nuptial births are predominantly first order births.

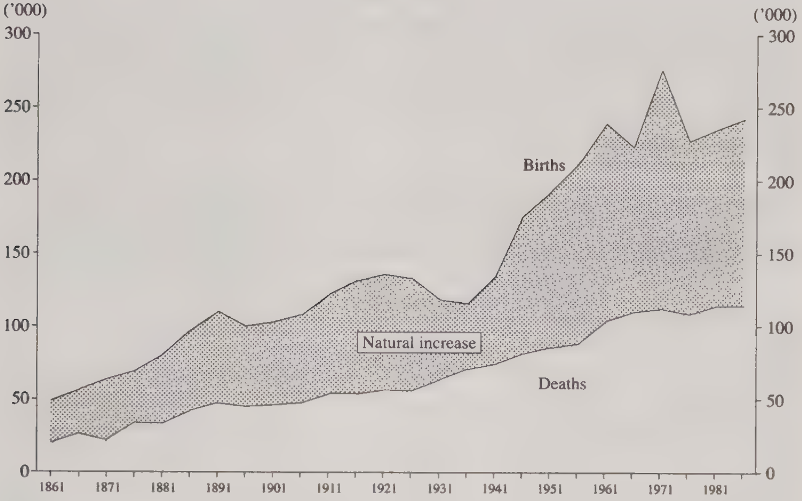
TOTAL CONFINEMENTS BY NUPTIALITY AND PREVIOUS ISSUE TO THE CURRENT MARRIAGE OF MOTHER (NUPTIAL BIRTHS), AUSTRALIA (a)

		Married mothers with previous issue to the current marriage of—							
	Ex-nuptial confinements	*0*	*1*	*2*	*3*	*4*	*5 or more*	*Not stated*	*Total*
ANNUAL AVERAGES									
1956–1960	9,918	65,695	57,532	40,920	22,968	11,299	11,633	—	219,965
1961–1965	13,655	69,281	57,971	40,818	23,612	12,125	13,022	—	230,484
1966–1970	18,707	80,999	62,930	37,446	18,899	8,961	9,700	—	237,644
1971–1975	24,299	88,120	74,641	36,914	15,216	6,006	5,765	12	250,973
1976–1980	24,851	77,877	69,291	34,288	11,119	3,332	2,451	15	223,224
1981–1985	34,248	82,279	70,089	34,399	11,354	3,093	1,918	103	237,484
ANNUAL TOTALS									
1981	30,956	82,476	67,627	35,445	11,750	3,282	1,993	6	233,535
1982	32,679	83,300	69,963	34,670	11,631	3,193	2,016	—	237,454
1983	35,335	83,466	70,427	34,081	11,343	3,108	1,878	476	240,111
1984*(b)*	34,337	79,295	69,312	33,027	10,802	3,013	1,825	32	231,643
1985*(b)*	37,933	82,860	73,114	34,774	11,246	2,867	1,877	—	244,672
1986	40,580	80,563	70,017	33,937	10,955	2,904	1,723	20	240,699

(a) Excludes full-blood Aboriginals prior to 1966. *(b)* These figures have been affected by late registration in New South Wales.

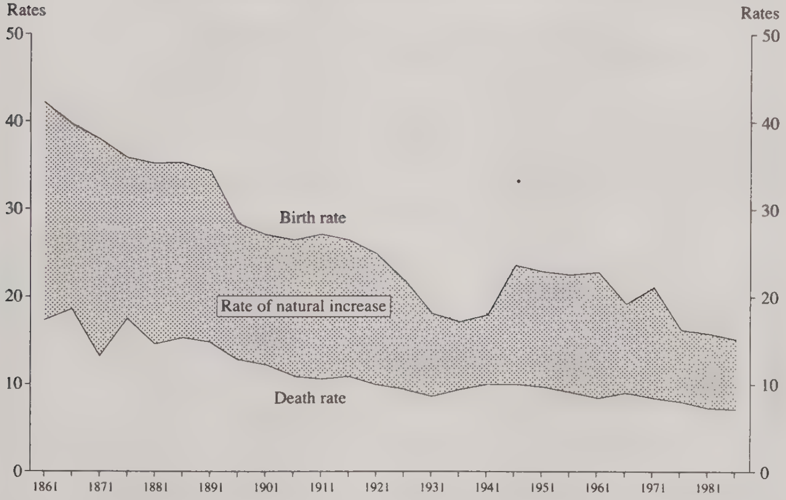
Since the 1950s there has been a decline in the proportion of females having three or more children in their marriage. Between 1956 and 1960, 58.7 per cent of nuptial confinements resulted in the first or second child of a marriage. In 1986, 75.2 per cent of confinements resulted in first or second children. The proportion of nuptial confinements that produced a fourth or higher order birth declined from 21.8 per cent between 1956 and 1960 to 7.8 per cent in 1986.

BIRTHS AND DEATHS(a), AUSTRALIA



(a) Excludes full-blooded Aboriginals before 1966.

RATES OF BIRTHS AND DEATHS(a), AUSTRALIA, 1861-1986(b)



(a) Per 1000 mean population. Excludes full-blooded Aboriginals before 1966. (b) There is a break in continuity due to revision in the methods used to calculate population estimates between 1961 and 1962, and between 1971 and 1972.

Deaths

Numbers of deaths a year in Australia have risen from 23,400 in 1860 to 114,980 in 1986. However, relative to the growth of the population throughout that period, crude death rates per 1,000 population have fallen—from 20.9 in 1860 to 10.7 in 1911 and to 7.2 in 1986. With the exception of the years during World War II, declines in crude death rates have been virtually continuous. In comparison with other countries, Australia ranks amongst those with the lowest mortality levels and the highest expectations of life.

EXPECTATION OF LIFE AT BIRTH AND INFANT MORTALITY RATES IN SELECTED LOW MORTALITY COUNTRIES, RECENT YEARS
(*Source:* **United Nations,** *Demographic Yearbook,* **1984 and 1986 (except figures for Australia).)**

	Infant mortality		*Life expectancy at birth*		
Country	*Rate*	*Year*	*Males*	*Females*	*Year*
Australia	8.8	1986	72.9	79.2	1986
Canada	7.9	p1985	71.9	79.0	1980–82
Denmark	7.7	1984	71.6	77.5	1984–85
England and Wales	*(a)*9.4	p1985	71.8	77.5	1983–85
Federal Republic of Germany	8.9	1985	71.2	77.8	1983–85
France	7.9	p1986	71.0	79.2	1983–85
Italy	10.9	1985	71.1	77.8	1981
Japan	5.5	1985	74.8	80.5	1985
Netherlands	8.1	p1986	72.9	79.8	1984–85
New Zealand	10.8	1985	71.0	76.8	1985
Sweden	5.9	p1986	73.8	79.9	1985
Switzerland	6.9	1986	73.5	80.0	1984–85
United States	10.3	p1986	71.2	78.2	1984

(a) Total United Kingdom.

INDICATORS OF MORTALITY, AUSTRALIA, 1961–1986

	Crude death rates		*Age-adjusted death rates*		*Infant mortality rates*
Year	*Males*	*Females*	*Males*	*Females*	
1961	9.5	7.5	12.0	7.6	19.5
1962	9.7	7.7	12.3	7.7	20.4
1963	9.7	7.7	12.3	7.6	19.6
1964	10.0	8.0	12.8	8.0	19.1
1965	9.8	7.8	12.4	7.7	18.5
1966	9.9	8.0	12.7	7.9	18.7
1967	9.7	7.7	12.3	7.5	18.3
1968	10.1	8.1	13.0	7.9	17.8
1969	9.7	7.7	12.4	7.4	17.9
1970	10.0	8.1	12.9	7.8	17.9
1971	9.3	7.6	12.0	7.3	17.3
1972	9.1	7.4	11.8	7.0	16.7
1973	9.1	7.3	11.7	6.9	16.5
1974	9.3	7.5	12.0	7.1	16.1
1975	8.7	7.0	11.1	6.5	14.3
1976	8.9	7.2	11.2	6.5	13.8
1977	8.5	6.8	10.6	6.2	12.5
1978	8.4	6.7	10.4	6.0	12.2
1979	8.2	6.5	10.0	5.7	11.4
1980	8.3	6.6	9.9	5.6	10.7
1981	8.2	6.5	9.7	5.4	10.0
1982	8.4	6.8	9.9	5.6	10.3
1983	7.9	6.4	9.2	5.3	9.6
1984	7.9	6.5	9.1	5.3	9.2
1985	8.0	6.8	9.2	5.4	10.0
1986	7.8	7.2	8.6	5.1	8.8

The crude death rate, as a measure of mortality, is distorted by changes in the age structure of the population over time. The fall in death rates is considerably greater if the population is standardised in terms of age structure. Using the age structure of the estimated resident population of persons as at 30 June 1981 as the standard, the adjusted death rate fell from 12.0 per thousand in 1961 to 8.6 per thousand in 1986 for males and from 7.6 to 5.1 per thousand for females during the same period.

The decline in death rates has been brought about primarily through improvements to community health care and advances in medical science and technology. A series of comprehensive health Acts were passed towards the end of the 19th century and efforts were made to improve infant nutrition. These advances were followed by improvements to hospital care and antiseptic surgery, the discovery of antibiotics and the development of immunisation programs. As a result, many of the infectious and diarrhoeal diseases, maternal mortality, pneumonia and tuberculosis were brought under control by the 1950s with consequent reductions in mortality rates from these causes.

AGE-SPECIFIC DEATH RATES BY SEX, AUSTRALIA (a)
(per '000)

	Age group (years)																		
Period	*0*	*1–4*	*5–9*	*10–14*	*15–19*	*20–24*	*25–29*	*30–34*	*35–39*	*40–44*	*45–49*	*50–54*	*55–59*	*60–64*	*65–69*	*70–74*	*75–79*	*80–84*	*85 and over*
MALES																			
Average annual rates—																			
1921–25	64.2	5.7	1.8	1.5	2.2	3.0	3.4	3.9	5.2	6.8	9.5	12.9	18.2	28.1	41.5	63.5	101.1	160.0	305.2
1926–30	57.7	5.2	1.6	1.3	2.1	2.8	3.2	3.7	4.6	6.2	8.9	12.7	17.8	26.5	40.7	61.5	101.2	152.0	335.8
1931–35	46.0	4.0	1.6	1.3	1.8	2.3	2.5	3.0	4.0	5.4	7.8	11.6	17.6	26.3	40.4	61.9	99.3	156.6	258.8
1936–40	43.2	3.6	1.5	1.2	*(b)*	*(b)*	*(b)*	*(b)*	*(b)*	*(b)*	*(b)*	11.8	17.8	27.4	41.3	63.0	100.0	158.2	277.4
1941–45	38.8	3.2	1.3	1.1	*(b)*	*(b)*	*(b)*	*(b)*	*(b)*	*(b)*	*(b)*	11.3	17.4	27.8	42.9	64.6	101.2	155.2	289.8
1946–50	30.1	1.9	0.9	0.8	1.4	1.8	1.7	2.0	2.6	4.1	6.8	11.1	17.6	27.4	42.4	64.0	99.3	149.7	255.3
1951–55	26.0	1.7	0.7	0.7	1.6	1.9	1.7	1.8	2.5	3.7	6.2	10.8	17.4	27.4	42.2	64.7	99.7	147.2	254.1
1956–60	23.3	1.3	0.6	0.5	1.4	1.8	1.5	1.8	2.3	3.5	5.9	10.0	16.9	26.6	42.0	63.5	97.5	145.0	251.2
1961–65	21.7	1.1	0.5	0.5	1.2	1.7	1.5	1.7	2.4	3.7	6.2	10.3	16.8	27.4	42.2	64.7	97.2	145.0	243.7
1966–70	20.4	1.0	0.5	0.5	1.4	1.8	1.5	1.6	2.4	3.8	6.2	10.4	17.2	27.8	44.3	67.0	102.7	149.2	245.9
1971–75	18.4	0.9	0.4	0.4	1.5	1.7	1.3	1.4	2.1	3.4	6.0	9.6	15.9	25.5	39.3	61.2	95.3	141.2	231.7
1976–80	13.6	0.7	0.3	0.4	1.4	1.7	1.4	1.3	1.9	3.0	5.2	8.6	13.8	22.2	35.3	54.2	87.7	127.9	210.7
1981–85*(c)*	11.0	0.6	0.3	0.3	1.2	1.5	1.3	1.3	1.5	2.4	4.1	7.2	12.2	19.2	31.1	49.4	78.0	119.1	205.6
Annual rates—																			
1981	11.4	0.6	0.3	0.3	1.3	1.5	1.3	1.2	1.7	2.6	4.6	7.9	13.0	19.8	32.3	52.0	80.2	121.2	208.1
1982	11.8	0.7	0.4	0.4	1.3	1.6	1.4	1.3	1.6	2.5	4.5	7.5	12.7	20.0	33.0	51.9	82.7	124.4	216.0
1983	10.5	0.6	0.3	0.3	1.1	1.5	1.4	1.2	1.4	2.3	3.9	7.3	12.2	18.9	30.7	47.8	76.9	115.8	201.4
1984*(c)*	10.4	0.6	0.2	0.3	1.0	1.5	1.1	1.3	1.4	2.4	3.7	6.7	11.7	18.7	29.8	48.2	75.3	114.1	195.8
1985*(c)*	11.3	0.6	0.3	0.3	1.1	1.6	1.3	1.3	1.4	2.2	3.7	6.6	11.4	18.5	29.5	47.1	74.7	119.4	205.1
1986	10.0	0.5	0.3	0.3	1.1	1.5	1.3	1.3	1.4	2.3	3.5	6.3	10.7	18.0	28.3	45.4	72.1	110.7	187.2
FEMALES																			
Average annual rates—																			
1921–25	51.2	4.9	1.5	1.2	1.8	2.8	3.4	3.9	4.8	5.3	6.8	9.2	12.7	19.3	30.3	49.0	83.4	138.6	264.7
1926–30	46.0	4.8	1.3	1.0	1.6	2.7	3.3	3.5	4.3	5.0	6.6	8.8	12.3	18.8	30.0	47.8	81.8	126.7	285.8
1931–35	36.3	3.5	1.2	0.9	1.4	2.1	2.7	3.0	3.8	4.4	6.0	8.5	11.6	17.9	29.8	47.1	77.4	127.6	234.6
1936–40	34.2	3.2	1.1	0.8	1.2	1.9	2.4	2.7	3.3	4.1	5.7	8.0	11.3	17.9	28.9	46.5	79.7	124.9	244.8
1941–45	30.9	2.6	1.0	0.7	1.0	1.4	1.9	2.2	2.9	3.7	5.4	7.8	11.1	17.6	29.0	47.9	80.2	125.7	243.5
1946–50	23.7	1.6	0.6	0.5	0.7	1.0	1.3	1.6	2.2	3.2	4.9	7.3	10.3	16.2	26.0	44.6	74.7	120.8	221.8
1951–55	20.6	1.4	0.5	0.4	0.6	0.7	0.9	1.2	1.8	2.7	4.4	6.7	9.5	15.1	24.6	41.3	71.6	118.5	220.2
1956–60	18.7	1.1	0.4	0.4	0.5	0.6	0.7	1.0	1.6	2.4	3.9	5.7	8.7	13.8	23.0	38.8	63.9	113.5	215.6
1961–65	17.0	0.9	0.4	0.3	0.5	0.6	0.7	1.0	1.5	2.3	3.7	5.6	8.3	13.6	21.7	37.4	63.3	107.5	205.1
1966–70	15.7	0.8	0.3	0.3	0.6	0.6	0.7	0.9	1.5	2.3	3.7	5.9	8.7	13.6	22.1	37.3	63.6	105.9	201.0
1971–75	14.0	0.7	0.3	0.2	0.6	0.5	0.6	0.8	1.3	2.1	3.5	5.2	8.0	12.2	19.4	33.1	57.3	97.4	187.9
1976–80	10.7	0.5	0.2	0.2	0.5	0.5	0.5	0.7	1.0	1.8	2.8	4.5	6.8	10.8	16.9	27.9	48.4	84.0	168.4
1981–85*(c)*	8.9	0.5	0.2	0.2	0.4	0.5	0.5	0.6	0.9	1.4	2.4	3.9	6.0	9.6	15.3	25.3	43.3	76.4	160.5
Annual rates—																			
1981	8.9	0.5	0.2	0.2	0.5	0.5	0.5	0.6	0.9	1.4	2.7	3.8	6.2	9.7	15.7	25.5	44.3	76.0	160.4
1982	9.1	0.5	0.2	0.2	0.4	0.5	0.5	0.5	0.8	1.5	2.5	4.2	6.2	10.1	16.0	25.7	45.1	79.3	170.4
1983	8.7	0.5	0.2	0.2	0.4	0.5	0.5	0.6	0.9	1.3	2.3	4.0	6.1	9.7	15.2	25.2	42.5	73.6	154.2
1984*(c)*	7.8	0.4	0.2	0.2	0.4	0.5	0.5	0.6	0.9	1.4	2.2	3.8	5.7	9.4	15.3	25.0	41.5	76.6	157.0
1985*(c)*	8.9	0.4	0.2	0.2	0.4	0.5	0.5	0.6	0.8	1.3	2.3	3.8	5.9	9.0	14.6	25.5	42.9	76.4	157.9
1986	7.7	0.4	0.2	0.2	0.4	0.5	0.5	0.6	0.8	1.4	2.2	3.5	5.7	8.8	15.1	24.8	41.1	71.2	148.3

(a) Excludes full-blood Aboriginals prior to 1966. *(b)* Rates are not available as population estimates for males in these age groups exclusive of defence personnel were not compiled for the period September 1939 to June 1947. *(c)* Adjusted for late registrations in New South Wales.

In Australia, as in most other countries, females have lower death rates than males. Age-specific rates for years since 1921 show this discrepancy occurring across all age groups. In 1986, for example, the female death rate in many age groups was about half that of males. The relative difference between death rates for males and females was greatest in the age group 15 to 24 years where in 1986 the female rate was about one-third that of males. The overall effect of these differences in death rates has been to increase the proportion of females in the older age groups of the population.

Concurrent with the decline in death rates has been a rise in life expectancy at birth, increasing for males from 47.2 years to 71.2 years between the periods 1881–1890 and 1980–1982, and correspondingly for females from 50.8 years to 78.3 years. In 1986, life expectancy at birth for males and females was 72.9 and 79.2 years respectively. Female life expectancy at birth has exceeded that of males throughout the period, with the difference increasing until 1980–1982. Contributing to the increase in life expectancy at birth is the reduction in infant mortality, falling from rates of 115.8 per thousand in 1881 to 8.8 per thousand by 1986. These changes reflect a very significant improvement in chances of survival from birth to age 1 year. The considerable difference between life expectancy at birth and at age 1 year which existed in the 1880s has disappeared and life expectancy at birth now exceeds life expectancy at age 1 year.

LIFE EXPECTANCY AT VARIOUS AGES, AUSTRALIA (a)

	Ages—									
	0		*1*		*25*		*45*		*65*	
Year	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*
1881–90	47.2	50.8	53.3	56.4	37.1	39.7	23.0	25.6	11.1	12.3
1891–1900	51.1	54.8	56.9	59.9	38.9	41.7	24.0	26.7	11.3	12.8
1901–10	55.2	58.8	60.0	62.9	40.6	43.4	24.8	27.6	11.3	12.9
1920–22	59.2	63.3	62.7	66.0	42.7	45.7	26.0	29.0	12.0	13.6
1932–34	63.5	67.1	65.5	68.7	44.4	47.2	26.9	29.7	12.4	14.2
1946–48	66.1	70.6	67.3	71.5	45.0	48.7	26.8	30.5	12.3	14.4
1953–55	67.1	72.8	67.9	73.2	45.5	50.2	27.2	31.4	12.3	15.0
1960–62	67.9	74.2	68.5	74.5	45.8	51.3	27.4	32.4	12.5	15.7
1965–67	67.6	74.2	68.1	74.4	45.9	51.2	27.0	32.3	12.2	15.7
1970–72	67.9	74.6	68.3	74.7	45.8	51.5	27.1	32.6	12.2	15.9
1975–77	69.6	75.6	69.6	76.5	46.9	53.1	28.3	34.0	13.1	17.1
1980–82	71.2	78.3	71.1	78.0	48.2	54.5	29.5	35.3	13.8	18.0
1981	71.4	78.4	71.2	78.1	48.3	54.7	29.6	35.4	13.9	18.1
1982	71.2	78.2	71.1	77.9	48.2	54.5	29.5	35.2	13.9	17.9
1983	72.1	78.7	71.9	78.4	48.9	54.9	30.1	35.6	14.2	18.3
1984 *(b)*	72.6	79.1	72.4	78.7	49.3	55.2	30.5	35.9	14.5	18.5
1985 *(b)*	72.3	78.8	72.1	78.5	49.2	55.0	30.4	35.7	14.3	18.2
1986	72.9	79.2	72.6	78.8	49.6	55.3	30.9	36.0	14.7	18.5

(a) Excludes full-blood Aboriginals until 1966. *(b)* Adjusted for late registrations in New South Wales.

Changes in levels of mortality and age-specific death rates reflect trends in the incidence of specific causes of death. The three most prevalent causes of death for both sexes at the present time are ischaemic heart disease, cancer and cerebrovascular disease or stroke. In recent years there have been decreases in the incidence of most of the major causes of death with the exception of cancer, with age-standardised death rates falling by half or more for some classes of disease between 1966 and 1986.

STANDARDISED DEATH RATES (a), CAUSES OF DEATH BY SEX, AUSTRALIA

Cause of death	*1966*	*1971*	*1976*	*1981*	*1985*	*1986*
MALES						
Neoplasms	184	198	205	215	217	214
Endocrine, nutritional and metabolic diseases	18	20	17	16	16	17
Cardiovascular diseases	498	458	419	349	309	292
Cerebrovascular diseases	141	143	123	98	79	73
Other circulatory diseases	70	62	53	40	33	31
Respiratory diseases	127	106	109	83	86	73
Diseases of the digestive system	34	29	32	32	29	28
Diseases of infancy	27	25	20	14	14	12
Accidents	79	80	70	58	50	48
Violence, suicide	21	21	19	20	20	21
Other	68	58	53	49	55	52
Total	**1,269**	**1,200**	**1,121**	**974**	**907**	**861**
FEMALES						
Neoplasms	123	125	125	122	130	130
Endocrine, nutritional and metabolic diseases	19	19	16	13	13	13
Cardiovascular diseases	269	246	212	175	165	159
Cerebrovascular diseases	137	136	113	86	73	66
Other circulatory diseases	52	46	37	27	22	20
Respiratory diseases	48	37	40	28	33	27
Diseases of the digestive system	20	17	18	17	18	17
Diseases of infancy	21	21	17	11	11	10
Accidents	34	32	28	22	20	20
Violence, suicide	12	11	7	7	6	7
Other	49	45	37	35	40	38
Total	**785**	**734**	**650**	**544**	**532**	**506**

(a) Per 100,000 persons, standardised to age distribution for persons, 1981.

Cause of death is age-related, with different causes assuming greater or lesser significance in persons of different age groups. The most common causes of death during the first year of life are the culmination of conditions originating in the perinatal period. These include prematurity, birth injury and respiratory conditions present from birth. The three main causes of death in 1986 were heart disease, malignant neoplasms (cancer) and cerebrovascular disease (including stroke), which collectively accounted for 69.0 per cent of deaths registered.

Accidents, poisoning and violence were the leading causes of death for each age group in the range 1–44 years, and particularly at ages 15 to 24 years where external causes accounted for 73.8 per cent of all deaths.

When male and female deaths were compared for particular age groups there were marked differences for certain main causes of death. For example, in the age group 25 to 44 years, the male death rates for heart disease and accidents, poisonings and violence (external causes) were over three times the equivalent rates for females.

In 1986, 33.9 per cent of all deaths registered in Australia were attributed to heart disease. While this proportion was similar for males and females overall, the distribution of deaths by age group differed between the sexes. Heart disease was a more significant cause of death at younger ages for males than for females. For males, heart disease was the leading cause of death for each age group over 44 years and almost 30 per cent of all male deaths due to heart disease were at ages below 65 years. For females, heart disease was the leading cause of death for age groups over 64 years only. These age groups accounted for almost 90 per cent of all female deaths from heart disease.

Deaths due to malignant neoplasms as a proportion of all deaths have risen slightly over the period 1980 to 1986. However, there has been little change in the distribution of cancer deaths by the primary site of growth. Malignant neoplasms of the digestive organs and peritoneum accounted for approximately 30 per cent of both male and female cancer deaths. The pattern of cancer deaths across other sites varied between the sexes. Whereas for 29.7 per cent of male deaths due to malignant neoplasms the primary site of growth was located in the respiratory and intrathoracic organs, this site accounted for only 11.6 per cent of female cancer deaths. However, malignant neoplasms of the breast accounted for 2,230 female deaths in 1986, representing 18.3 per cent of all female cancer deaths.

Marriages

Numbers of marriages recorded in Australia have risen from 10,000 in 1861 to annual averages of nearly 25,000 at the end of the 19th century, almost 65,000 between 1936 and 1940, reaching 115,000 by 1985, then declining to 114,000 in 1987. Exceptions to the general increase in numbers occurred during the economic depressions of the 1890s and 1930s and, more recently, during the 1970s. Both World Wars this century created major fluctuations in numbers marrying, distorting for a time the overall trend.

MARRIAGES REGISTERED: RELATIVE PREVIOUS MARITAL STATUS, NUMBER AND PER CENT, AND CRUDE MARRIAGE RATE, AUSTRALIA

	Both partners never married		*One or both partners previously married*			*Crude marriage rate*
Years	*Number*	*Per cent*	*Number*	*Per cent*	*All marriages*	*(a)*
Annual averages—						
1861–1870		Not available			10,940	8.0
1871–1880					13,799	7.2
1881–1890					21,284	7.9
1891–1900					23,327	6.7
1901–1910					30,414	7.5
1911–1920	36,727	89.4	4,368	10.6	41,095	8.1
1921–1930	40,931	88.0	5,584	12.0	46,515	7.8
1931–1940	49,902	89.1	6,109	10.9	56,011	8.2
1941–1950	62,385	84.4	11,551	15.6	73,936	9.9
1951–1960	61,129	83.2	12,349	16.8	73,478	7.9
1961–1970	81,720	86.3	12,997	13.7	94,717	8.2
1971–1975	93,734	83.8	18,068	16.2	111,802	8.3
1976–1980	73,401	69.1	32,896	30.9	106,297	7.4
1981–1985	77,003	67.5	37,035	32.5	114,038	7.4
1986	76,647	66.7	38,266	33.3	114,913	7.2
1987	76,684	67.2	37,429	32.8	114,113	7.0

(a) There is a break in the continuity due to revision of methods used to calculate population estimates between 1961 and 1962, and between 1971 and 1972.

Throughout this century there have been two periods of rising marriage rates, firstly from the mid 1930s until just after World War II, and secondly from the early 1960s to the early 1970s. During the first of these periods, the crude marriage rate rose from annual averages of 7.2 per 1,000 population during 1931–35 to 9.7 over the next 15 years, reaching the highest rate on record in 1942, at 12.0 per 1,000 population, when 86,000 marriages were registered. The second period of rising marriage rates occurred during the 1960s and early 1970s, following stabilisation of marriage numbers during the 1950s, when these averaged 73,500 annually. The number of marriages rose to a peak of 117,600 in 1971 before falling back to 104,000 by 1975.

In contrast with the beginning of the 20th century, three changes in marriage patterns had taken place by the early 1970s. Firstly, a far higher proportion of people were marrying; secondly, the age range across which marriage took place had narrowed with a definite preference for marriage at a younger age; thirdly, differences between the sexes relating to age at marriage had been reduced, with marriage patterns for males conforming more closely to those of females. Changes to proportions marrying are covered in the previous section on marital status of the population.

MEDIAN AGES OF BRIDEGROOMS AND BRIDES, PREVIOUS MARITAL STATUS, AUSTRALIA (a)

	Median age of bridegrooms				*Median age of brides*			
Period	*Bachelors*	*Widowers*	*Divorced*	*Total*	*Spinsters*	*Widows*	*Divorced*	*Total*
1926–30	26.4	45.5	38.6	26.8	23.4	41.1	34.1	23.8
1931–35	26.5	46.7	39.3	26.9	23.4	42.9	34.2	23.7
1936–40	26.7	48.7	38.6	27.1	23.7	44.1	34.0	24.0
1941–45	25.7	50.8	38.5	26.3	22.9	43.6	34.0	23.3
1946–50	25.2	52.2	37.1	25.9	22.4	41.6	33.1	23.0
1951–55	25.0	54.3	38.9	25.7	22.1	45.3	34.6	22.7
1956–60	24.7	56.5	39.3	25.4	21.6	47.6	35.4	22.0
1961–65	24.2	56.6	40.4	24.7	21.3	49.3	36.6	21.7
1966–70	23.5	56.7	39.8	23.9	21.2	50.1	36.1	21.5
1971–75	23.3	57.8	37.3	23.9	21.0	51.1	33.0	21.4
1976–80	23.9	58.4	36.1	25.4	21.6	51.6	32.5	22.7
1981–85	24.9	59.8	36.6	26.4	22.7	52.2	33.5	23.9
1986	25.6	60.5	38.3	27.3	23.5	52.6	34.8	24.9
1987	25.9	60.6	38.6	27.6	23.8	52.4	35.1	25.2

(a) Excludes full-blood Aboriginals before 1966.

The shift to younger marriage was already evident from declines in median age at first marriage prior to the 1930s, but postponements of marriage during the economic depression subsequently increased the median age when these delayed marriages eventuated in the second half of the 1930s. Between the 1936–40 and the 1971–75 periods, however, median age at first marriage declined from 26.7 years to 23.3 years for males and from 23.7 years to 21.0 years for females. Until the early 1960s, the difference between median age at marriage of males and females remained around 3.0 years. However during the 1960s this gap became smaller, falling to 2.3 years by 1971 as the age at first marriage for males became younger. Between 1956–60 and 1966–70, while the ratio of first marriages for females aged 20–24 remained virtually static, the ratio for males of the same age increased from 484.8 to 553.8 per thousand.

FIRST MARRIAGE RATIOS (a), AUSTRALIA (b)

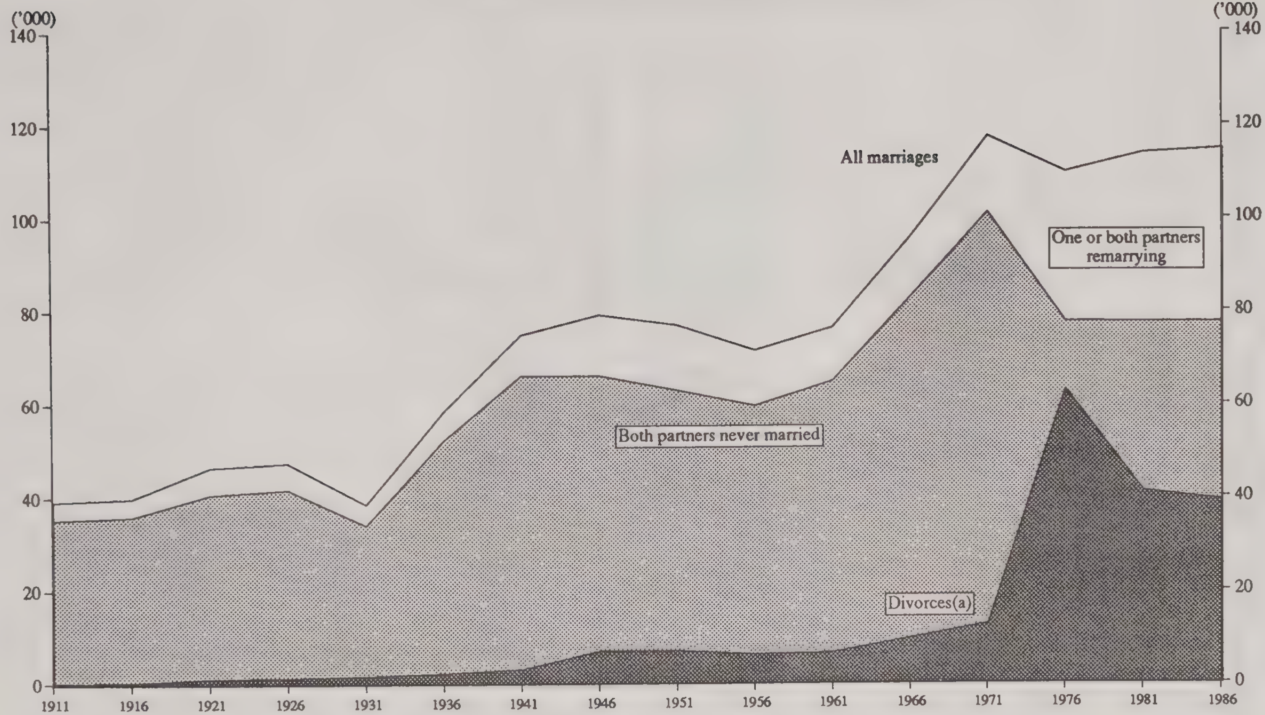
	Cumulative ratios of age-groups (c)—						*Index of total first marriages (d)*
Years	*To 19*	*20–24*	*25–29*	*30–34*	*35–39*	*40 and over*	
			BRIDEGROOMS				
Average annual ratios—							
1951–55	41.0	466.7	275.1	92.9	42.3	58.5	976.5
1956–60	48.8	484.8	274.5	92.6	34.7	45.6	981.0
1961–65	59.8	506.2	279.0	88.9	33.6	38.0	1,005.5
1966–70	72.1	553.8	265.1	75.9	29.9	35.4	1,032.2
1971–75	72.0	506.4	201.4	58.7	22.9	30.9	892.2
1976–80	37.6	368.2	184.4	55.2	20.8	28.5	694.7
1981–85*(e)*	16.9	310.1	221.1	71.2	23.3	24.6	667.3
Annual ratios—							
1982	24.1	337.0	220.3	68.2	22.9	27.3	699.8
1983	19.1	312.6	223.4	71.0	22.9	24.6	673.7
1984*(e)*	15.6	277.3	218.4	70.9	22.7	23.9	628.7
1985*(e)*	14.1	280.3	236.9	81.2	25.2	25.0	662.9
1986*(e)*	9.8	263.0	237.1	85.0	26.6	23.6	645.0
1987	9.0	247.2	241.5	90.4	27.4	24.3	639.8
			BRIDES				
Average annual ratios—							
1951–55	272.2	559.5	148.0	48.0	23.5	37.0	1,091.8
1956–60	280.4	545.2	127.7	40.2	18.0	28.4	1,044.3
1961–65	271.6	530.5	115.7	34.3	14.9	23.6	993.5
1966–70	290.5	541.2	112.0	30.4	12.2	19.6	1,006.9
1971–75	299.1	452.2	92.7	27.5	10.9	15.8	898.2
1976–80	182.9	362.7	95.5	28.0	11.4	14.7	695.0
1981–85*(e)*	111.9	377.0	135.0	36.1	11.8	11.2	682.8
Annual ratios—							
1982	130.7	389.2	129.8	34.3	11.4	12.2	707.9
1983	110.4	382.8	136.9	36.4	11.5	11.4	689.3
1984*(e)*	93.2	355.5	137.4	36.6	11.3	11.1	645.0
1985*(e)*	88.7	372.5	156.1	39.5	13.4	12.0	685.0
1986*(e)*	76.3	360.7	165.8	46.5	14.0	11.2	674.6
1987	67.3	350.0	173.5	50.8	15.8	11.5	668.9

(a) Per 1,000 mid-year population of males and females of each age. There is a break in the continuity due to the revision of methods used to calculate population estimates between 1961 and 1962, and between 1971 and 1972. *(b)* Excludes full-blood Aboriginals prior to 1966. *(c)* Ratios for each age-group are calculated by summing the ratios for single years. *(d)* The sum of all single year ratios. *(e)* These ratios have been affected by late registrations of births, deaths and marriages in New South Wales.

Since the early 1970s, new marriage patterns have emerged. Firstly, while total numbers of persons marrying recovered during 1981–85 to an annual average of 114,000 (higher than the previous peak of 111,800 during 1971–75), the numbers of marriages in which neither party has been previously married had fallen during that time, from annual averages of 93,700 during 1971–75 to 77,000 between 1981–85 and remained at the same level in 1986 and 1987. Secondly the median age at first marriage has risen during the decade 1976–85. In 1987 it was 25.9 years for males and 23.8 years for females. The age differential between the sexes at first marriage has declined to 2.1 years in 1987 from being almost constant at 2.3 years between 1966 and 1985.

The decline in first marriage ratios and increase in the median age at first marriage over the last decade may reflect to some extent the tendency of some couples to live together before getting married. Although there is no reliable time series data on this group, the

MARRIAGES AND DIVORCES, AUSTRALIA



(a) The sharp increase in divorces between 1971 and 1976 is due to the introduction of the Family Law Act in 1976.

1986 Census showed that 95,995 females aged 20–29 years were living in a de facto marriage relationship. This represented 7.5 per cent of all females in this age group.

Divorces

DIVORCES (a) AUSTRALIA

Years	*Divorces*	*Years*	*Divorces*
Annual averages—		Annual averages—	
1891–1900	357	1976–80	45,220
1901–10	399	1981–85	42,396
1911–20	742	Annual totals—	
1921–30	1,692	1982	44,088
1931–40	2,508	1983	43,525
1941–50	4,584	1984	43,124
1951–60	6,906	1985	39,830
1961–70	9,120	1986	39,417
1971–75	17,348	1987	39,725

(a) Includes small numbers of nullities between 1891 and 1950.

For most of this century there has been a slow but steady rise in the number of divorces granted each year, increasing from annual averages of 400 between 1901–10 to 9,120 between 1961–70. However, the most important factor involved in rising divorce rates in recent times has been the introduction of the *Family Law Act 1975* which came into operation on 5 January 1976. This legislation provides for a single ground for divorce, namely irretrievable breakdown of marriage, which is established by a minimum one-year separation of the husband and wife.

Removal of the need to prove fault, together with reduction of the separation period from five years to one year, has provided easier and faster access to divorce for either party. After the introduction of the Family Law Act, the number of divorces per year rose from annual averages of 17,350 to 45,220 between 1971–75 and 1976–80, while the median duration of marriage of divorcing couples decreased from 12.5 years in 1971 to 10.2 years in 1981, increased slightly to 10.6 in the years to 1986 and then declined to 10.2 years in 1987.

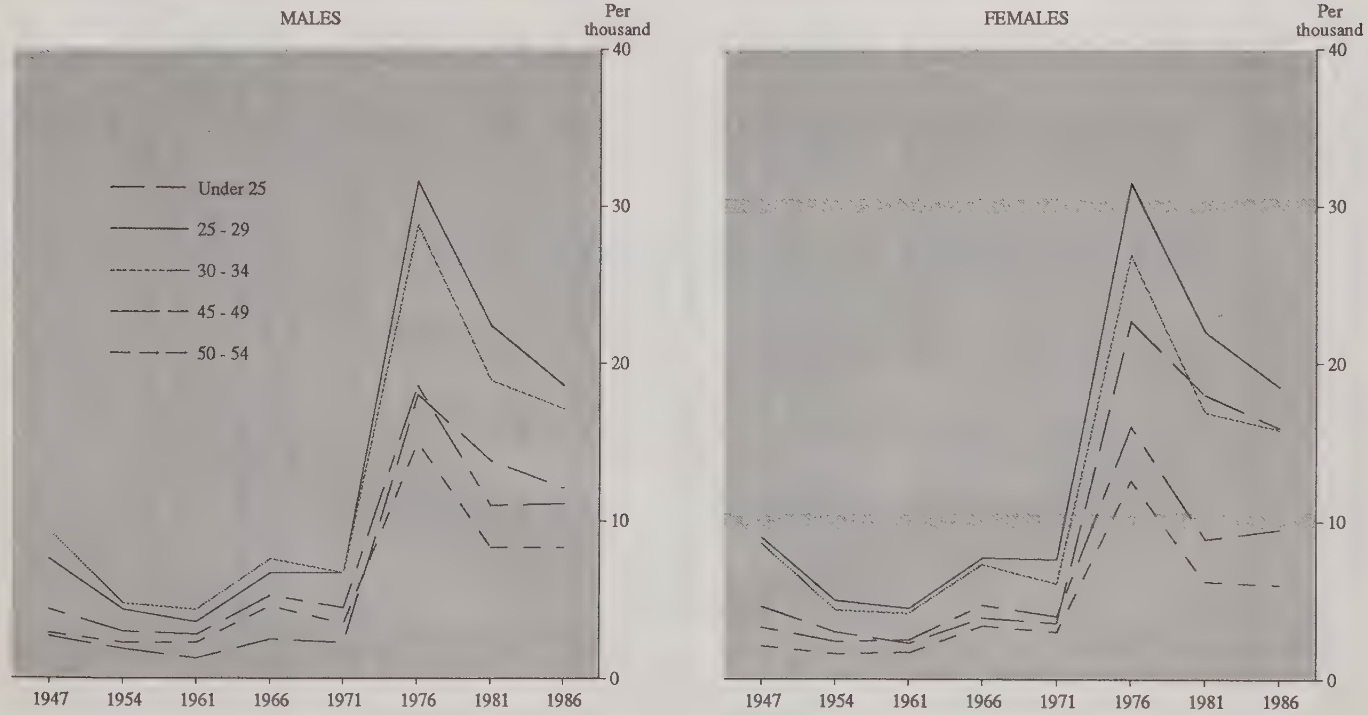
DIVORCES: DURATION OF MARRIAGE, AUSTRALIA

Year	Duration of marriage (years)						Median duration of marriage
	Under 5	5–9	10–14	15–19	20 and over	Total	
ACCORDING TO INTERVAL BETWEEN DATE OF MARRIAGE AND DATE DECREE MADE ABSOLUTE							
	—per cent—						years
1967	7.1	25.4	20.2	17.4	29.9	100.0	n.a.
1968	8.0	28.2	19.8	15.6	28.3	100.0	n.a.
1969	8.9	28.0	20.7	14.8	27.6	100.0	13.0
1970	10.0	29.4	19.4	14.0	27.1	100.0	12.5
1971	9.3	30.0	20.0	14.3	26.4	100.0	12.5
1972	10.0	30.8	19.2	14.2	25.8	100.0	12.1
1973	10.0	32.2	19.3	13.5	25.1	100.0	11.8
1974	9.5	31.7	20.2	13.5	25.2	100.0	11.8
1975	9.9	32.4	20.1	13.8	23.8	100.0	11.6
1976 *(a)*	15.5	30.2	18.1	12.5	23.7	100.0	11.0
1977	17.3	28.7	18.6	12.5	23.0	100.0	10.9
1978	19.3	28.6	18.5	12.2	21.4	100.0	10.5
1979	20.1	28.4	18.3	12.3	20.9	100.0	10.3
1980	20.7	28.4	19.3	11.8	19.8	100.0	10.2
1981	20.8	28.5	19.6	11.9	19.2	100.0	10.2
1982	20.3	28.0	20.0	13.0	18.8	100.0	10.4
1983	20.8	26.8	20.3	13.2	18.9	100.0	10.5
1984	21.4	26.4	19.6	13.7	19.0	100.0	10.5
1985	21.7	26.2	18.7	14.0	19.3	100.0	10.5
1986	21.7	26.2	17.8	14.3	19.9	100.0	10.6
1987	22.6	26.7	17.3	14.3	19.1	100.0	10.2
ACCORDING TO INTERVAL BETWEEN DATE OF MARRIAGE AND DATE OF FINAL SEPARATION							
	—per cent—						years
1976	39.6	22.5	13.6	10.6	13.8	100.0	6.9
1977	36.9	24.2	14.9	10.7	13.4	100.0	7.4
1978	36.4	24.6	15.1	10.6	13.3	100.0	7.4
1979	36.2	24.5	15.0	11.0	13.3	100.0	7.5
1980	36.4	24.9	15.4	10.5	12.8	100.0	7.5
1981	36.4	24.9	15.9	10.2	12.6	100.0	7.5
1982	36.2	24.3	16.3	10.9	12.3	100.0	7.6
1983	36.3	23.3	16.9	11.0	12.4	100.0	7.7
1984	36.9	22.7	16.8	11.1	12.6	100.0	7.7
1985	37.1	22.1	16.5	11.5	12.6	100.0	7.6
1986	37.6	21.5	16.0	11.7	13.2	100.0	7.6
1987	38.6	21.5	15.3	11.8	12.6	100.0	7.3

(a) Discontinuity in the series due to the *Family Law Act 1975* which came into operation on 5 January 1976.

There has been an increasing tendency for divorce to occur in the early years of marriage and at an earlier age. The proportion of divorces taking place within the first five years of marriage more than doubled from 9.9 per cent in 1975 to 20.7 per cent in 1980, and continues to rise. Similarly, while increases in the divorce rates have occurred in all age categories since the introduction of the Family Law Act, the largest increases have occurred among couples in the younger age-groups. Between 1976 and 1987 the highest divorce rates for both males and females occurred in the 25–29 year age group.

AGE SPECIFIC DIVORCE RATES PER 1000 MARRIED POPULATION : SELECTED AGE GROUPS
AUSTRALIA



AGE-SPECIFIC DIVORCE RATES PER 1,000 MARRIED POPULATION, AUSTRALIA

	Age group (years)									
Census year	*Under 25*	*25–29*	*30–34*	*35–39*	*40–44*	*45–49*	*50–54*	*55–59*	*60 and over*	*Total*
				HUSBAND						
1947	2.7	7.6	9.4	7.9	6.3	4.4	2.9	2.0	0.7	5.0
1954	1.9	4.4	4.8	4.3	3.6	3.0	2.3	1.8	0.6	3.1
1961	1.3	3.6	4.4	3.9	3.3	2.8	2.3	1.6	0.7	2.8
1966	2.5	6.7	7.6	6.9	6.6	5.3	4.6	3.4	1.2	3.7
1971	2.3	6.7	6.7	5.5	5.1	4.5	3.5	2.7	1.1	4.2
1976	18.0	31.6	28.8	23.9	21.2	18.6	15.0	11.1	5.1	18.9
1981	13.8	22.4	18.9	16.2	13.5	10.9	8.3	5.2	2.3	11.9
1986	12.1	18.6	17.1	14.8	13.3	11.1	8.3	5.4	2.1	10.7
				WIFE						
1947	4.6	9.0	8.6	6.9	5.0	3.3	2.1	1.2	0.5	5.0
1954	3.0	5.0	4.4	4.1	3.4	2.4	1.6	1.1	0.4	3.1
1961	2.3	4.5	4.2	3.4	3.1	2.5	1.7	1.2	0.6	2.8
1966	3.9	7.7	7.3	6.1	5.7	4.7	3.4	2.6	0.9	3.8
1971	3.6	7.6	6.1	5.0	4.6	4.0	3.0	2.0	0.8	4.2
1976	22.7	31.5	26.9	22.0	19.2	16.0	12.6	8.8	4.1	18.8
1981	18.0	22.0	16.9	14.7	11.8	8.9	6.2	4.1	1.8	11.9
1986	15.9	18.5	15.8	13.7	12.0	9.5	6.0	3.7	1.5	10.6

There has been a recent increase in the proportion of divorces which do not involve children, from 32.4 per cent during 1971–75, to 39.4 per cent in 1985 and to 41.4 per cent in 1987. Where divorce involves children, the average number of children per divorce has fallen from 2.1 to 1.9 in the period between 1971–75 and 1981–85.

DIVORCES: PERCENTAGE DISTRIBUTION OF THE NUMBER OF CHILDREN OF THE MARRIAGE, AUSTRALIA

	Number of children									
Year	*0*	*1*	*2*	*3*	*4*	*5*	*6 or more*	*Total divorces*	*Total children*	*Average number of children(a)*
				—per cent—				No.	No.	No.
1947–50	38.5	30.4	17.6	7.5	3.2	1.4	1.4	29,819	35,123	1.9
1951–55	34.0	30.2	20.5	8.6	3.7	1.6	1.5	35,454	45,984	2.0
1956–60	34.5	26.9	21.8	9.8	4.1	1.5	1.5	33,601	44,729	2.0
1961–65	37.4	25.8	21.3	9.9	3.7	1.2	0.7	37,841	46,737	2.0
1966–70	34.0	24.9	22.7	11.3	4.7	1.5	0.9	53,406	72,942	2.1
1971–75	32.4	23.4	24.2	12.4	5.0	1.6	0.9	86,743	124,198	2.1
1976–80	37.6	22.5	24.3	10.5	3.6	1.0	0.5	226,100	276,088	2.0
1981	38.9	21.5	25.6	10.0	3.0	0.7	0.3	41,412	49,616	2.0
1982	38.4	21.6	26.2	10.3	2.7	0.6	0.2	44,088	53,010	2.0
1983	38.4	21.8	26.2	10.2	2.7	0.5	0.2	43,525	52,059	1.9
1984	39.1	21.6	26.2	9.8	2.6	0.5	0.2	43,124	50,713	1.9
1985	39.4	21.1	26.2	10.0	2.6	0.5	0.2	39,830	46,800	1.9
1986	40.3	21.2	25.8	9.5	2.5	0.5	0.2	39,417	45,231	1.9
1987	41.4	21.7	25.1	9.0	2.2	0.5	0.1	39,723	44,050	1.9

(a) Divorces involving one or more children.

There is some evidence to suggest that the incidence of divorce is now decreasing. The number of divorces granted has fallen continually since 1982.

Remarriages

There has been a significant increase throughout this century in both the numbers and proportions of marriages in which one or both parties have been previously married. The average annual number of such marriages increased from 4,368 in 1911–20 to 38,266 in 1986 and decreased to 37,429 in 1987, comprising 10.6, 33.3 and 32.8 per cent of total marriages respectively.

MARRIAGES IN WHICH ONE OR BOTH PARTNERS HAVE BEEN PREVIOUSLY MARRIED: RELATIVE PREVIOUS MARITAL STATUS, NUMBER AND PER CENT, AUSTRALIA

	Both partners divorced		*One partner divorced*		*Other (a)*		
Years	*No.*	*%*	*No.*	*%*	*No.*	*%*	*Total No.*
Annual averages—							
1911–20	21	0.5	600	13.7	3,747	85.8	4,368
1921–30	80	1.4	1,404	25.1	4,100	73.4	5,584
1931–40	183	3.0	2,306	37.7	3,619	59.2	6,109
1941–50	827	7.2	6,072	52.6	4,651	40.3	11,550
1951–60	1,424	11.5	6,865	55.6	4,059	32.9	12,349
1961–70	1,900	14.6	7,491	57.6	3,606	27.7	12,997
1971–75	3,369	18.6	11,094	61.4	3,606	20.0	18,069
1976–80	9,961	30.3	19,924	60.6	3,011	9.2	32,896
1981–85*(b)*	12,125	32.7	22,399	60.5	2,511	6.8	37,035
1986*(b)*	12,870	33.5	22,868	59.9	2,528	6.5	38,266
1987	12,438	33.2	22,594	60.4	2,396	6.4	37,429

(a) One or both partners widowed. *(b)* The statistics for 1984, 1985 and 1986 were affected by late registrations in New South Wales.

This change has been brought about by the almost continuous growth in the numbers of marriages in which one or both parties were divorced at the time of remarriage. Such marriages have increased from annual averages of 621 between 1911–20 to 35,032 in 1987 and, as a proportion of marriages involving remarriage, from 14.2 per cent to 93.6 per cent over that time.

While the move to predominance of divorced persons among those remarrying has been ongoing throughout most of this century, increases were particularly noticeable at the time of World War II and following the operation of the Family Law Act in 1976. Sharp rises in the number of divorces took place in both these periods, followed by increases to remarriage rates for both sexes.

REMARRIAGES, DIVORCED AND WIDOWED PERSONS AGED 15 AND OVER, AUSTRALIA

		Remarriages of persons previously—			*Remarriage rates*		
Census year	*Total marriages*	*Widowed*	*Divorced*	*Total*	*Widowed (a)*	*Divorced (a)*	*Total (b)*
			MALES				
1911	39,482	2,304	183	2,487	36.1	77.3	37.6
1921	46,869	2,988	562	3,550	40.6	132.8	45.6
1933	46,595	2,434	939	3,373	24.7	91.2	31.0
1947	76,457	3,614	5,178	8,792	32.2	206.7	64.0
1954	71,229	3,344	4,529	7,873	29.5	139.4	54.0
1961	76,686	3,032	4,536	7,568	26.1	117.4	48.9
1966	96,046	3,209	5,598	8,807	26.3	130.5	53.4
1971	117,637	3,604	7,783	11,387	27.8	126.0	59.5
1976	109,973	3,777	19,404	23,181	29.6	201.2	103.5
1981	113,905	3,152	23,293	26,445	23.1	131.1	84.2
1986	114,913	2,952	25,285	28,237	20.9	101.8	72.5

For footnotes see over.

REMARRIAGES, DIVORCED AND WIDOWED PERSONS AGED 15 AND OVER, AUSTRALIA
—continued

Census year	*Total marriages*	*Remarriages of persons previously—*			*Remarriage rates*		
		Widowed	*Divorced*	*Total*	*Widowed (a)*	*Divorced (a)*	*Total(b)*
			FEMALES				
1911	39,482	1,846	285	2,131	14.4	133.2	16.4
1921	46,869	2,770	583	3,353	16.8	135.5	19.8
1933	46,595	1,620	928	2,548	7.0	85.2	10.5
1947	76,457	3,654	5,102	8,756	11.7	185.4	25.9
1954	71,229	3,456	4,968	8,424	9.8	135.3	21.7
1961	76,686	3,301	4,776	8,077	8.1	110.2	17.9
1966	96,046	3,309	5,627	8,936	7.1	110.0	17.4
1971	117,637	3,833	7,467	11,300	7.4	104.6	19.2
1976	109,973	4,378	18,161	22,539	7.9	146.3	33.3
1981	113,905	3,727	21,870	25,597	6.1	96.9	30.5
1986	114,913	3,564	23,279	26,843	5.6	74.8	28.2

(a) Per thousand widowed or divorced persons. *(b)* Per thousand widowed and divorced persons.

Compared with the rapid rise in numbers of divorced persons remarrying throughout this century, the number of widowed persons remarrying has increased very slowly.

MIGRATION

Statistics of overseas arrivals and departures are compiled from incoming and outgoing passenger cards which are collected from all travellers under the Migration Act 1958. Earlier statistics were obtained from Shipping and Plane manifests required under various Acts.

Since 1924, overseas travellers have been classified into two principal categories which distinguish short-term movements (of less than 12 months duration) from long-term movements (of 12 months duration or longer, including permanent movements). Revised questions for travellers were introduced in 1959 and again in 1974. The 1959 revision enabled the distinction of permanent from other long-term movements and also the identification of former settlers departing permanently. The 1974 revisions improved the layout of the passenger card without changing the classification.

Migration to Australia

Migration to Australia is presently regulated by the Migration Act 1958 which came into force on 1 June 1959. Any person entering Australia after the introduction of the Act without having been granted an entry permit or who is not within an exempted class is a prohibited non-citizen. Exempted persons include New Zealand citizens, diplomatic and consular representatives of other countries, and seamen and air crew who enter Australian ports while on leave.

Until recently, net gains provided a satisfactory measure of the population gain from international migration (i.e., the excess of total arrivals over total departures). In recent years, however, because of the large increase in short term movements (over 6 million in 1986), distortions arising from seasonality of these movements have become very large. For the purpose of estimating the population of Australia and the States and Territories, therefore, the migration component of population growth has been measured since 1 July 1971 by reference to permanent and long-term movements only. Net migration is estimated to have directly contributed 34.0 per cent of the total population increase between

European settlement in 1788 and 1980. The first boost to free settlement came with the introduction of assisted migration schemes during the 1830s, with nearly half of the 2.5 million settlers arriving up to 1939 receiving assisted passage. Over 95.0 per cent of those assisted were British.

In the period since World War II, British migrants have remained the most numerous group of settlers. However, the group has declined in absolute numbers since the 1970s and as a proportion of total settler arrivals since the 1960s, from 46 to 48 per cent in the 1950s and 1960s to 25.2 per cent in 1981–85.

BIRTHPLACE OF SETTLER ARRIVALS (a) AUSTRALIA, SELECTED YEARS

Birthplace	*1961–65*	*1971–75*	*1981–85*	*Total*	*1961–65*	*1971–75*	*1981–85*	*Total*
			—'000—				—per cent—	
United Kingdom and Ireland	267.3	226.0	115.9	1,075.5	46.4	41.2	25.2	39.0
New Zealand	7.7	175	48.6	143.0	1.3	3.2	10.6	5.2
Italy	67.3	18.4	4.3	158.5	11.7	3.4	0.9	5.7
Yugoslavia	25.6	40.3	7.3	154.8	4.4	7.3	1.6	5.6
Greece	65.6	21.1	3.9	149.3	11.4	3.8	0.8	5.4
Vietnam	*(b)*	*(b)*	47.2	*(c)*84.9	*(b)*	*(b)*	10.3	*(c)*3.1
Germany	17.8	10.3	11.6	63.8	3.1	1.9	2.5	2.3
United States of America	6.8	19.5	8.4	56.2	1.2	3.6	1.8	2.0
Lebanon	3.5	12.8	7.0	53.9	0.6	2.3	1.5	2.0
Netherlands	13.2	5.6	6.4	41.9	2.3	1.0	1.4	1.5
India	3.2	12.1	8.3	41.6	0.6	2.2	1.8	1.5
South Africa	3.9	6.3	12.2	37.2	0.7	1.1	2.7	1.3
Poland	6.7	2.2	14.8	30.6	1.2	0.4	3.2	1.1
Turkey	*(b)*	11.6	3.7	*(c)*29.7	*(b)*	2.1	0.8	*(c)*1.1
Philippines	*(b)*	3.1	15.4	*(c)*27.0	*(b)*	0.6	3.4	*(c)*1.0
Malaysia	*(b)*	4.8	10.4	*(c)*24.0	*(b)*	0.9	2.3	*(c)*0.9
Hong Kong	*(b)*	*(b)*	9.9	*(c)*15.3	*(b)*	*(b)*	2.2	*(c)*0.6
Kampuchea	*(b)*	*(b)*	10.3	*(c)*13.8	*(b)*	*(b)*	2.2	*(c)*0.5
Other	87.4	136.8	113.8	556.0	15.2	24.9	24.8	20.2
Total	**576.0**	**548.4**	**459.4**	**2,757.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Permanent arrivals only. *(b)* The statistics for this country arc not separately available but are included in the category 'Other'. *(c)* The statistics for some listed countries do not relate to the whole period 1961 to1985 i.e. the statistics for Vietnam relate to the period 1974–85; Turkey, 1966–85; Philippines, 1971–85; Malaysia. 1971–85; Hong Kong. 1976–85; Kampuchea, 1974–85.

In contrast, source countries of migrants have diversified and the number of non-British migrants has increased. Two factors have contributed to this shift. Firstly, entry conditions to Australia were eased after World War II initially for European refugees from Displaced Persons Camps then, subsequently, restrictions relating to other racial groups were removed. Secondly, assisted passage was extended to a wider range of migrants. Originally this included Central and Eastern European refugees after World War II, then German and Dutch settlers in the 1950s and 1960s, Southern European and Middle-East groups from the 1960s and, more recently, Indo-Chinese refugees. Between 1946 and 1980 some 53.7 per cent of settlers were assisted, reaching an average of 66.8 per cent during the boom migration years of 1966–70. In recent times, however, assisted passages have been phased out with the exception of refugees.

SETTLER ARRIVALS, ASSISTED AND UNASSISTED, AUSTRALIA

Years	*Assisted(a)*		*Unassisted*		*Total*
	No.	%	No.	%	No.
Annual averages—					
1926–30	19,881	60.4	13,028	39.6	32,909
1931–35	156	1.4	10,733	98.6	10,889
1936–40	766	4.3	16,976	95.7	17,742
1941–45	—	—	6,525	100.0	6,525
1946–50	54,639	59.7	36,959	40.3	91,598
1951–55	55,048	48.3	58,970	51.7	114,018
1956–60	61,103	49.6	62,050	50.4	123,153
1961–65	67,426	58.5	47,772	41.5	115,198
1966–70	107,496	66.8	53,320	33.2	160,810
1971–75	58,180	53.0	51,510	47.0	109,690
1976–80	19,660	26.6	54,160	73.4	73,820
Annual totals—					
1982	20,200	18.8	86,970	81.2	107,170
1983	16,370	15.5	62,020	84.5	78,390
1984	—	—	—	—	73,000
1985	—	—	—	—	82,000
1986	—	—	—	—	103,330
1987	—	—	—	—	128,290

(a) From 1946–50 to 1983 figures for assisted settlers include assisted refugee arrivals. The Assisted Settler Scheme was discontinued in mid 1983, however some settlers under that Scheme arrived in the second half of 1983.

Statistics for birthplace of migrants are only available since 1959. However, some indication of migration by the largest non-British groups since World War II can be obtained by using data on nationality and birthplace of migrants. Between 1948 and 1985 approximately 8.7 per cent of all migrants were Italian, 5.1 per cent were Greek, 4.4 per cent were Yugoslavs, 3.8 per cent were Dutch, 3.4 per cent were Germans and 2.4 per cent were Polish.

NATIONALITY OF PERMANENT ARRIVALS (a), AUSTRALIA

Nationality	*1948–50*		*1951–55*		*1956–60*		*Total*	
	'000	%	'000	%	'000	%	'000	%
British *(b)* and Irish	163.2	42.9	274.5	48.2	294.6	47.8	732.3	46.7
Italian	25.2	6.6	101.4	17.8	92.7	15.1	219.3	14.0
Dutch	12.8	3.4	62.7	11.0	45.0	7.3	120.5	7.7
German	3.2	0.8	42.0	7.4	38.6	6.3	83.8	5.3
Polish	63.6	16.7	5.3	0.9	5.3	0.9	74.3	4.7
Greek	4.0	1.1	28.8	5.1	39.3	6.4	72.2	4.6
Yugoslav	19.5	5.1	6.8	1.2	7.2	1.2	33.6	2.1
Estonian, Latvian and Lithuanian	30.9	8.1	1.7	0.3	0.2	0.1	32.6	2.1
Hungarian	11.2	3.0	2.3	0.4	13.2	2.1	26.7	1.7
Russian	17.1	4.5	2.7	0.5	3.7	0.6	23.5	1.5
Austrian	1.0	0.3	7.6	1.3	10.5	1.7	19.2	1.2
Other and Stateless	28.6	7.5	34.3	6.0	65.4	10.6	128.4	8.2
Total	**380.6**	**100.0**	**570.1**	**100.0**	**615.8**	**100.0**	**1,566.4**	**100.0**

(a) 'Permanent arrivals' includes permanent and long-term movement exceeding 12 months. *(b)* Includes New Zealand and all British Commonwealth countries during the respective periods.

The contribution of various groups has changed over time, with northern Europe declining as a major source of migrants (apart from the British) by the 1960s, while southern European countries provided the greater part of non-English speaking migrants throughout the 1960s. From the mid 1960s to the mid 1970s migrants from the Middle-East and

India increased in numbers. More recently, since 1975, there has been an upturn in migrants from South-East Asia and Hong Kong, and particularly refugees from Indo-China. Between 1981 and 1985, Vietnamese-born arrivals accounted for 10.3 per cent of Australia's settler intake.

Since 1978–79, family immigration has increased in importance, with migration of family members now amounting to over 50 per cent of settler arrivals. Another recent trend has been the increase in non-visaed migrants in Australia. These are primarily New Zealand citizens migrating under the Trans-Tasman Travel Arrangement under which Australian and New Zealand citizens may enter each country without the need to obtain visas or entry permits. Other non-visaed migrants include children born to Australian citizens overseas, persons who have acquired Australian citizenship overseas and residents of Norfolk Island (an Australian Territory). New Zealand migrants increased numerically from 17,500 to 48,600 between 1971–75 and 1981–85 and as a proportion of total migrants from 3.2 per cent to 10.6 per cent between those periods. In 1987, New Zealanders comprised 12.0 per cent of total settler arrivals for the year.

The age composition of settlers has been younger than that of Australia's population for some time. The median age of settlers arriving between 1971 and 1984 was 24.0 years compared with 29.7 years for the population as a whole at the time of the 1981 Census and the age structure of settlers reflects the predominance of young families arriving in Australia. Persons aged 65 years and over represented 3.6 per cent of migrants arriving between 1971 and 1985, which contrasts with the share of these people in Australia's population of 10.5 per cent in 1986.

PERMANENT ARRIVALS BY SEX AND AGE, PERCENTAGE DISTRIBUTION, AUSTRALIA

	Age group						
Years	*0–4*	*5–14*	*15–24*	*25–44*	*45–64*	*65 and over*	*Total number*
MALES							
Annual averages—							
1947–50	9.5	10.3	21.7	48.4	8.8	1.4	62,930
1951–55	9.0	14.9	25.9	41.8	7.2	1.2	64,821
1956–60	25.5		27.0	38.7	7.4	1.4	59,532
1961–65	29.0		25.6	36.3	7.6	1.5	59,972
1966–70	12.2	17.8	24.5	37.3	6.7	1.4	86,480
1971–75	13.3	17.9	23.1	36.4	7.0	2.2	55,790
1976–80	13.4	19.4	20.9	34.4	8.1	3.8	36,830
1981–85	12.2	19.1	19.0	38.4	7.8	3.6	46,760
FEMALES							
Annual averages—							
1947–50	12.1	12.6	18.3	41.6	12.6	2.8	47,013
1951–55	11.1	17.4	18.5	39.6	10.9	2.4	49,197
1956–60	26.7		24.3	36.4	10.0	2.5	52,514
1961–65	29.2		25.8	33.1	9.3	2.7	55,226
1966–70	13.3	19.4	23.9	32.5	8.4	2.5	74,330
1971–75	12.9	17.3	25.4	32.4	8.9	3.2	53,900
1976–80	12.5	17.3	21.9	32.9	10.5	4.9	37,000
1981–85	11.8	17.4	19.3	37.6	9.4	4.5	45,122
PERSONS							
Annual averages—							
1947–50	10.6	11.3	20.2	45.5	10.4	2.0	109,943
1951–55	9.9	16.0	22.7	40.8	8.8	1.7	114,018
1956–60	26.1		25.8	37.6	8.6	1.9	112,046
1961–65	29.1		25.7	34.8	8.4	2.1	115,198
1966–70	12.7	18.6	24.2	35.1	7.5	1.9	160,810
1971–75	13.1	17.6	24.2	34.4	7.9	2.7	109,690
1976–80	13.0	18.3	21.4	33.6	9.3	4.3	73,830
1981–85	12.0	18.3	19.2	38.0	8.6	4.0	91,882

Despite the youthfulness of the settlers, their median age has been rising. In 1971 it was 23.1 years and in 1986 it was 26.4 years. This rise has been particularly marked since 1981, when the numbers of migrants under the 'family reunion' category began to increase. At the younger ages, declines have taken place since the mid 1970s in the proportion of settlers in the 15–24 year age group while there has been an increase in the proportion of settlers aged 45 and over.

The sex ratio of settlers has declined almost continually between 1948–50 and 1976–80, with the exception of the 1961–65 period. The sex ratio tends to be high in years of large intake, and falls as intake declines. Males have constantly exceeded females in the 25–44 year age group, although the sex ratio has fallen closer to equality since the mid 1970s. Traditionally, the sex ratio of the overseas born has been higher than the Australian born population.

PERMANENT ARRIVALS: SEX RATIOS (a) BY AGE, AUSTRALIA

	Age group					
Year	*0–14*	*15–24*	*25–44*	*45–64*	*65+*	*Total*
Annual averages—						
1947–50	107.5	158.5	155.6	93.0	66.2	133.9
1951–55	110.4	184.1	139.0	87.7	62.7	131.8
1956–60	108.4	126.0	120.2	84.0	61.7	113.4
1961–65	107.8	107.9	119.2	88.4	62.3	108.6
1966–70	106.7	119.3	133.7	93.1	66.7	116.3
1971–75	109.6	94.1	116.5	81.2	72.3	103.5
1976–80	109.6	95.1	104.1	76.4	76.8	99.5
1981–85	111.3	101.7	105.7	85.1	83.2	103.6

(a) The number of males per 100 females.

Refugees

Since 1945, Australia has accepted more than 420,000 refugees or displaced persons, including 170,000 from Europe who were displaced by World War II and its aftermath.

Australia presently accepts refugees from about 40 countries. The largest element in Australia's current refugee intake is the Indo-Chinese program. In 1984, 8,537 Indo-Chinese refugees were resettled in Australia.

REFUGEE ARRIVALS(a), AUSTRALIA

Period	*Number*
Annual averages—	
1961–65	n.a.
1966–70	n.a.
1971–75	10,549
1976–80	12,558
Annual totals—	
1979	17,057
1980	21,692
1981	21,972
1982	17,522
1983	17,016
1984	15,761
1985	13,089
1986	10,196
1987	12,255

(a) Includes arrivals under the Special Humanitarian Program instituted late in 1981.

Australia is one of 97 countries which have become party to an international convention and protocol on the status of refugees and, in so doing, have taken on certain international legal obligations to assist refugees. The final determination of a refugee's status and the decision to accept refugees for resettlement in Australia rests with the Australian Government. Australia is also a member of the Executive Committee of the United Nations High Commission for Refugees (UNHCR). Australia's response to refugee situations is twofold. Through aid programs directed principally through UNHCR, refugees are offered protection and assistance in countries of first refuge. Those refugees for whom other durable solutions are not feasible may be offered resettlement (in Australia) if they have relatives in Australia, other close ties with Australia or the potential for successful settlement in their own right. Such refugees must also be presented to Australia by the UNHCR as being registered or otherwise eligible for resettlement.

Permanent Departures

An important influence on the level of population growth is the level of population loss due to outmigration. Between 1971 and 1985, total permanent departures numbered 421,135 persons or an average of 28,076 per year, a level which is 30.6 per cent of the total permanent arrivals in Australia in this period. In other words, for almost every three settlers who arrived during the period, one person has left Australia. The number of departures has declined however since the early 1970s. During the five years between 1981 and 1985, total permanent departures were at a level of 23.8 per cent of total permanent arrivals. In 1987, the number of permanent departures was 20,420 comprising 15.9 per cent of permanent arrivals for the year.

PERMANENT DEPARTURES BY CATEGORY AND PERMANENT ARRIVALS, AUSTRALIA

Year ended 31 December	*Permanent departures*				*Ratio of permanent departures to permanent arrivals*
	Former settlers	*Other residents*	*Total*	*Permanent arrivals*	
1973	30,325	13,105	43,430	105,003	0.414
1974	21,849	11,902	33,751	121,324	0.278
1975	18,315	10,769	29,084	54,117	0.537
1976	16,815	9,917	26,732	58,317	0.458
1977	14,171	8,591	22,762	75,640	0.301
1978	14,027	10,934	24,961	68,420	0.365
1979	12,670	10,750	23,420	72,420	0.323
1980	11,450	9,393	20,843	94,500	0.221
1981	11,280	8,576	19,856	118,740	0.167
1982	13,352	9,141	22,493	107,170	0.210
1983	16,920	8,950	25,870	78,400	0.330
1984	12,550	9,760	22,310	73,110	0.305
1985	10,020	8,600	18,620	82,000	0.227
1986	9,960	8,860	18,820	103,330	0.182
1987	11,010	9,400	20,420	128,290	0.159

Of the two categories of permanent departures, that is 'former settlers' and 'other residents', it has been under the first category that there has been the greatest outflow of persons. Between 1971 and 1987, 'former settlers' represented 63.6 per cent of all permanent departures. The departure of 'other residents' fluctuated between 9,000 and 13,000 persons from year to year throughout the period. The fall in the total number of departures, noted above, is largely attributable to the decline in the number of 'former settlers' departing. There are two major reasons for this decline, the first relates to the decline in the number of settler arrivals in the early 1970s and the second to the increase in refugee arrivals for whom there are indications that they are less likely than other settlers to return to their own country.

Internal Migration

Information on internal migration has been available from the censuses since 1971 and from the annual Internal Migration Survey since 1970. A good indicator of internal movement over the long term is the duration of stay at a person's usual residence, although this indicator is age-selective and, for the overseas-born, dependent on the year of arrival in Australia. According to the Internal Migration Survey, at 31 May 1987, 74 per cent of persons aged 15 and over had lived at their current usual residence for less than 15 years—that is, they had moved at least once during the past 15 years.

PERSONS AGED 15 YEARS AND OVER: DURATION OF STAY AT USUAL RESIDENCE BY STATE OF USUAL RESIDENCE, AUSTRALIA, 31 MAY 1987

Duration of stay at usual residence 31 May 1987	*State of usual residence at 31 May 1987*								
	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Australia*
				—'000—					
Less than 1 year:									
1–12 weeks	152.3	118.9	102.6	31.4	57.4	14.7	6.1	9.2	492.7
13–25 weeks	171.3	110.7	102.7	40.7	60.1	15.2	9.7	9.9	520.3
26–38 weeks	181.0	122.8	104.6	42.7	56.5	14.8	7.5	9.3	539.2
39–51 weeks	117.5	100.5	64.9	27.5	39.5	10.3	4.8	6.4	371.3
Total	*622.2*	*452.8*	*374.8*	*142.2*	*213.5*	*55.1*	*28.0*	*34.7*	*1,923.5*
1–4 years	1,128.5	855.5	580.4	282.6	326.7	95.1	33.9	55.3	3,358.0
5–9 years	772.2	541.4	356.6	186.5	172.1	59.2	14.4	32.0	2,134.3
10–14 years	470.2	430.8	205.6	127.9	128.5	40.1	13.5	25.5	1,442.2
15–19 years	448.8	344.6	140.5	121.5	87.2	31.1	6.4	19.8	1,200.1
20–24 years	276.4	211.3	89.8	69.7	48.6	21.2	2.5	9.8	729.5
25 years or more	449.8	337.1	167.8	119.5	88.4	35.8	2.5	10.8	1,211.8
Total	**4,168.1**	**3,173.6**	**1,915.6**	**1,050.1**	**1,065.0**	**337.5**	**101.2**	**188.1**	**11,999.3**

INTERNAL MIGRATION (a)(b), AUSTRALIA

	Year ended—			
	30 June 1984	*30 June 1985*	*31 May 1986*	*31 May 1987*
		—'000—		
Changed usual residence—				
Intrastate—				
Within the same metropolitan area	1,326.1	1,296.5	1,195.4	1,259.8
To and from metropolitan areas	227.4	237.9	220.3	243.1
Within the same non-metropolitan area	780.3	771.2	770.8	755.5
Total	*2,333.8*	*2,305.6*	*2,186.6*	*2,258.4*
Interstate	214.3	239.0	252.3	239.4
Total	*2,548.2*	*2,544.6*	*2,438.9*	*2,497.8*
Did not change usual residence	*12,584.1*	*12,698.2*	*13,009.8*	*13,132.9*
Total	**15,132.3**	**15,242.8**	**15,448.6**	**15,630.7**
		—Movers per thousand of population—		
Mobility rate	168	167	158	160

(a) Non-institutionalised civilians who were resident in Australia at the beginning and end of the survey year. (b) Excludes persons resident in Australia but with no usual residence at the beginning and/or end of the survey year.

Recent Internal Migration Surveys show that about 16 per cent of all persons change their residence within a twelve month period. Of those who change their residence, about 50 per cent remain within the same capital city and another 40 per cent within the same State or Territory. Nearly 10 per cent are interstate movements.

The predominant reason for moving given by persons aged 15 and over at the 1987 Internal Migration Survey, particularly for intrastate movers, was housing. Of all intrastate movers, 32 per cent gave housing as the main reason. The next most quoted reason—employment—accounted for only 10 per cent of intrastate moves. On the other hand employment emerged as the main reason for interstate moves. It accounted for 45 per cent of interstate moves, whilst housing only accounted for 3 per cent.

The level of net interstate migration has been an important influence on the distribution of Australia's population amongst the States and Territories. Historically it has been much more important than differential fertility or mortality and in many periods more important than overseas migration. The table below presents estimates of net interstate migration for the fourteen intercensal periods between 1881 and 1986 and the financial years from 1981–82 to 1985–86. Net interstate migration tends to be volatile in nature and large gains and losses have been recorded by the States.

NET INTERSTATE MIGRATION, AUSTRALIA

Period	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Intercensal periods—								
(a)								
1881–91	21.4	7.8	7.3	–31.6	1.7	–6.5	—	—
1891–1901	5.2	–64.0	6.4	–16.7	69.7	–0.7	—	—
1901–11	16.3	–38.6	10.2	–11.1	32.2	–11.0	—	—
1911–21	40.2	–8.8	0.5	5.6	–20.8	–16.8	—	—
1921–33	0.7	3.2	14.3	–5.5	0.6	–18.2	0.5	4.4
1933–47	2.8	18.6	–6.6	–5.2	–10.8	–7.1	4.2	4.2
1947–54	–34.2	–3.5	22.7	7.0	1.4	1.1	1.6	4.1
1954–61	–23.6	1.9	15.4	4.1	–7.7	–6.3	4.1	12.0
1961–66	–15.8	–19.5	10.2	0.8	8.6	–7.1	3.6	19.2
1966–71	–18.5	–33.4	17.6	–15.0	22.6	–7.1	10.7	23.1
(b)								
1966–71	–21.8	–28.4	16.7	–17.9	24.1	–7.1	9.2	25.2
1971–76	–78.7	–41.0	69.8	6.7	20.7	–4.2	–1.2	27.8
1976–81	–26.3	–58.4	88.2	–15.2	11.1	–4.5	4.7	0.5
1981–86	–68.8	–41.9	95.7	–8.4	17.2	–1.9	3.4	4.7
Financial years—								
(c)								
1975–76	–15.5	–13.5	12.5	1.5	8.9	–0.6	3.1	3.6
1980–81	–15.0	–15.4	35.1	–5.1	2.1	–1.0	0.3	–1.0
(d)								
1981–82	–19.6	–14.4	35.5	–4.9	3.6	–2.0	2.1	–0.2
1982–83	–17.2	–5.1	20.8	–0.3	1.5	–1.2	0.5	1.0
1983–84	–10.3	–3.3	10.0	0.6	0.7	0.7	0.7	0.9
1984–85	–9.3	–5.8	12.9	–2.3	2.0	0.8	0.6	1.2
1985–86	–12.5	–13.2	16.5	–1.4	9.4	–0.1	–0.5	1.8
1986–87	–10.3	–13.4	18.1	3.2	10.4	–2.8	–1.4	2.7

Sources: (a) Rowland, D.T. 1979: Internal Migration in Australia, Census Monograph series, Australian Bureau of Statistics, Canberra, p. 20. Figures refer only to movement of Australian born persons, estimated by use of intercensal survival method. *(b)* Census results adjusted for movement of persons aged 0–4 years. *(c)* Unadjusted Census data, 1976 and 1981. (d) Based on Family Allowance transfers.

New South Wales gained in population considerably from interstate migration between 1881 and 1921. Minimal gains were made between 1921 and 1947 but from then on the State has experienced substantial net losses, particularly to Queensland and, since the 1960s, to the Australian Capital Territory and Western Australia.

Victoria experienced high net losses during the depression of the 1890s and in the intercensal period 1901–1911. There was a period of large net gains between 1933 and 1947, but by 1961–1966 the State had reverted to net losses which still persist.

Major migration to Queensland occurred in the twenty years from 1966 to 1986. Queensland gained in all intercensal periods, excepting 1933–1947. This gain has been especially large since 1947, and in particular between 1971 and 1986.

South Australia has experienced fluctuating interstate migration, recording large losses between 1881 and 1911, noticeable gains in the 1947–1954 period, and gradual declines until, in 1966–1971, it had returned to large losses. The State gained again between 1971 and 1976 but since then has reverted to losses, although the extent of these has been considerably less than for New South Wales and Victoria.

Western Australia gained considerably from interstate migration between 1891 and 1911, but the following fifty years were generally a period of net losses. From 1961 however, Western Australia has recorded consistent net gains, mainly from Victoria, South Australia and, until 1983, from New South Wales.

Tasmania has a long history of losing population to other States. These losses were greatest between 1901 and 1933. Since 1983, however, the historical trend has been reversed and Tasmania has experienced small gains in net migration.

The Northern Territory and Australian Capital Territory have consistently gained from interstate migration. The Australian Capital Territory in particular recorded very large gains in the seventeen years to 1976. Net migration for the Northern Territory between 1971 and 1976 should be interpreted in the light of the impact of Cyclone Tracy on Darwin which caused an evacuation of a large part of the Territory's population in December 1974 and early 1975. Net migration to both Territories slowed towards the end of the 1970s with Northern Territory receiving only small gains in the 1980s. The Australian Capital Territory lost population at the beginning of the 1980s, but since 1982 has experienced increasing gains.

During the fifteen years from 1971 to 1986, the flow of persons interstate increased, both numerically and in proportion to the population. Recent census data indicate that for the three five-year periods, 1971–76, 1976–81 and 1981–86, the number of interstate movers was 569,500, 651,200 and 716,555 respectively. This increase was evident for both males and females, with the masculinity ratio of interstate flows remaining virtually constant at 107.

INTERSTATE MOVERS BY AGE, MOBILITY RATES (a) AND SEX RATIOS (b) AUSTRALIA

	Number of interstate movers			*Mobility rates*		
Age group years	*1971–76*	*1976–81*	*1981–86*	*1971–76*	*1976–81*	*1981–86*
1–4	. .	. .	. .	. .	. .	. .
5–9	69,810	75,603	69,830	56	61	59
10–14	49,979	59,096	62,803	40	46	48
15–19	49,899	53,025	59,331	41	42	44
20–24	83,239	89,139	92,223	75	72	69
25–29	99,102	100,337	110,169	88	85	82
30–34	64,271	85,729	89,571	68	72	71
35–39	42,174	55,606	73,719	52	57	58
40–44	27,380	34,104	44,539	38	42	44
45–49	22,328	21,948	27,629	29	30	33
50–54	17,993	19,155	19,134	24	25	26
55–59	12,933	16,929	18,700	21	23	25
60–64	11,008	14,769	18,214	20	25	25
65 and over	19,402	25,745	30,693	16	18	18
Total	**569,518**	**651,185**	**716,555**	**46**	**49**	**45**
Sex ratios—						
Interstate movers	106	107	107			
Total population	100	100	100			

(*a*) Interstate movers per 1,000 population of the same age group at end of period. (*b*) The number of males per 100 females.

Interstate mobility rates by age have revealed a clear and consistent life cycle pattern in the propensity of persons to move interstate. Looking at the five-yearly migration data, there was, initially, an above-average rate for the 5–9 year age group because of the high mobility of their parents. This was followed by a period of below average mobility in the early teenage years. Mobility was highest at ages 20–39 years, from whence it steadily declined with age. The highest mobility rates occurred at ages 25–29 years and the lowest at ages 65 and over. Females were generally less likely to move interstate than males, with differences being most pronounced during the child-rearing ages from 25 to 45 years.

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7

LABOUR

The principal subjects covered in this chapter are labour force, unemployment, wage rates, earnings, hours of work, labour costs, industrial disputes, trade unions and Commonwealth Government employment and training programs. Further detail on these subjects is contained in *Labour Statistics, Australia* (6101.0), *A Guide to Labour Statistics* (6102.0) and in other publications listed at the end of this chapter.

The Labour Force

Fundamental to the measurement of employment and unemployment is the concept of the labour force. The labour force is defined broadly as those persons aged 15 and over who during a particular week are either employed or unemployed. The labour force represents the total official supply of labour available to the labour market during a given week.

This section presents some summary statistics on the civilian labour force drawn from the ABS monthly Labour Force Survey and associated supplementary surveys. Set out below is a range of characteristics such as whether persons are employed, unemployed or not in the labour force, together with demographic information (i.e. age, sex, marital status, birthplace, etc.). For a description of the Labour Force Survey and its relationship to the Population Census *see Year Book* No. 68. Further details concerning the scope, coverage and survey methods (as well as more detailed statistics) of the labour force and supplementary surveys can be found in the publications listed at the end of this chapter.

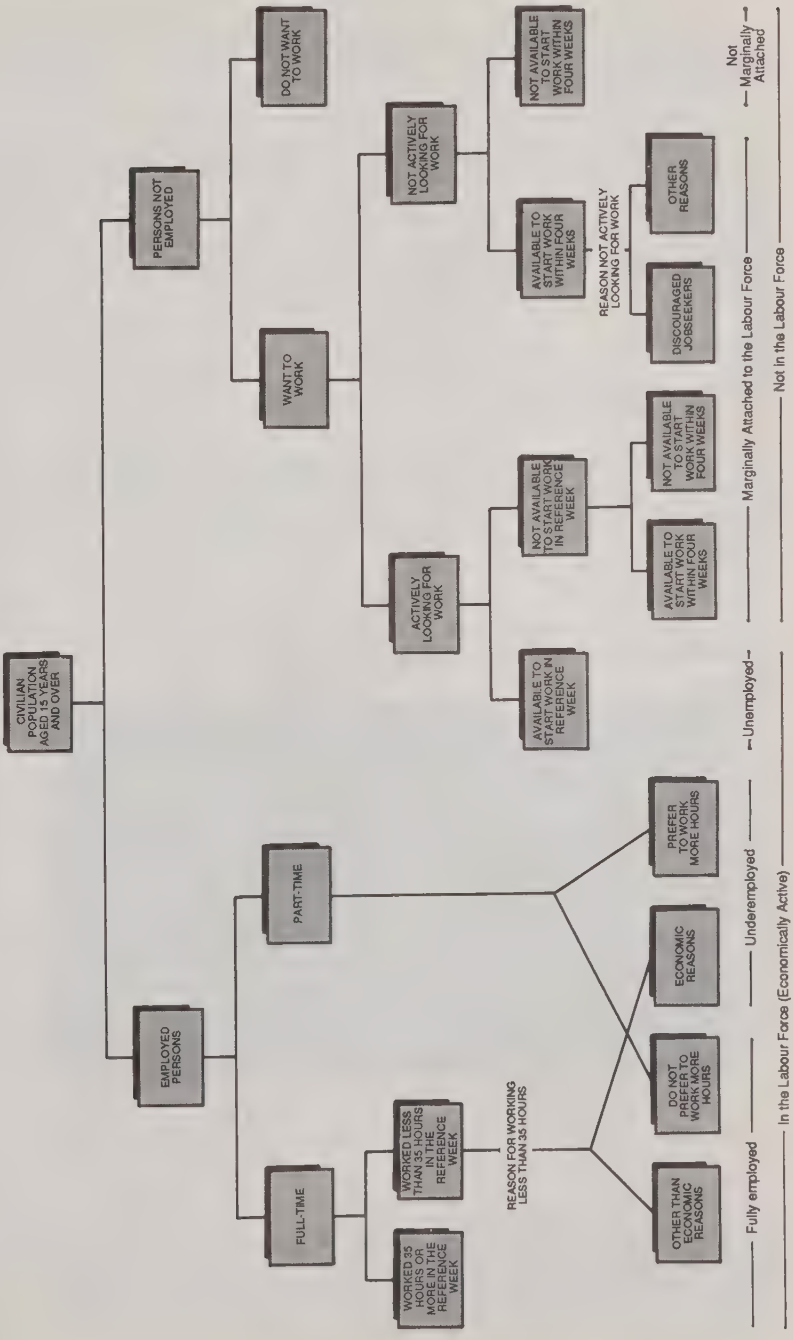
Australian labour force framework

The need to reflect the dynamic structure and characteristics of the labour market and the changes required to respond to evolving socio-economic conditions and policy concerns have resulted in significant modifications to the original Labour Force Survey framework that was developed in the 1960s. An ever-increasing demand to obtain information concerning underemployment and information on persons wanting work but not defined as unemployed has led to improvements to the conceptual basis of the Australian labour force framework. The modified framework is set out schematically on the next page.

Characteristics of the labour force

The size and composition of the labour force is not static over time. Growth of the labour force is due to an increase/decrease in labour force participation or in the population aged 15 and over. The table below sets out the growth of the labour force by source.

THE AUSTRALIAN LABOUR FORCE FRAMEWORK

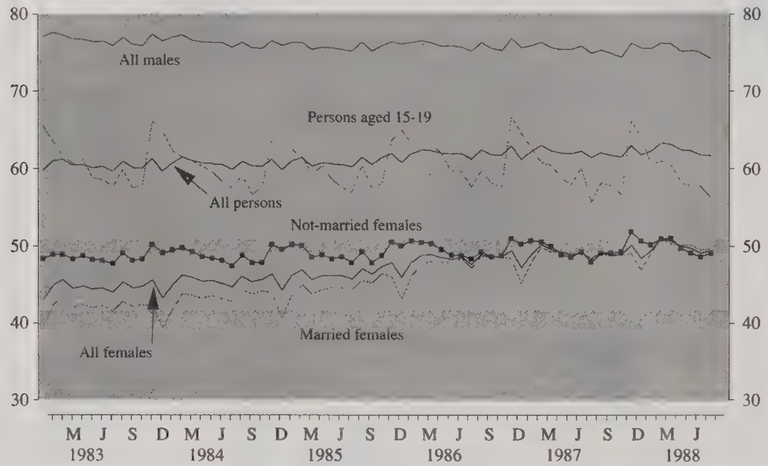

CIVILIAN POPULATION AGED 15 YEARS AND OVER
EMPLOYED PERSONS
PERSONS NOT EMPLOYED
FULL-TIME
PART-TIME
WANT TO WORK
DO NOT WANT TO WORK
WORKED 35 HOURS OR MORE IN THE REFERENCE WEEK
WORKED LESS THAN 35 HOURS IN THE REFERENCE WEEK
REASON FOR WORKING LESS THAN 35 HOURS
OTHER THAN ECONOMIC REASONS
DO NOT PREFER TO WORK MORE HOURS
ECONOMIC REASONS
PREFER TO WORK MORE HOURS
ACTIVELY LOOKING FOR WORK
NOT ACTIVELY LOOKING FOR WORK
AVAILABLE TO START WORK IN REFERENCE WEEK
NOT AVAILABLE TO START WORK IN REFERENCE WEEK
AVAILABLE TO START WORK WITHIN FOUR WEEKS
NOT AVAILABLE TO START WORK WITHIN FOUR WEEKS
AVAILABLE TO START WORK WITHIN FOUR WEEKS
NOT AVAILABLE TO START WORK WITHIN FOUR WEEKS
REASON NOT ACTIVELY LOOKING FOR WORK
DISCOURAGED JOBSEEKERS
OTHER REASONS
Fully employed
Underemployed
Unemployed
Marginally Attached to the Labour Force
Not Marginally Attached
In the Labour Force (Economically Active)
Not in the Labour Force

LABOUR FORCE: SOURCES OF GROWTH
(per cent)

	Males			*Females*			*Persons*		
		Percentage points change due to			*Percentage points change due to*			*Percentage points change due to*	
Year ending August	*Percentage change in labour force*	*Population growth*	*Labour force participation*	*Percentage change in labour force*	*Population growth*	*Labour force participation*	*Percentage change in labour force*	*Population growth*	*Labour force participation*
1983	0.9	1.8	–0.9	2.0	1.8	0.2	1.3	1.8	–0.5
1984	1.4	1.6	–0.2	3.0	1.6	1.4	2.0	1.6	0.4
1985	1.0	1.6	–0.7	4.0	1.6	2.5	2.1	1.6	0.5
1986	2.0	2.1	—	6.2	2.0	4.1	3.7	2.1	1.7
1987	1.8	2.3	–0.4	3.8	2.2	1.4	2.6	2.3	0.3
1988	1.3	2.1	–0.7	4.3	2.0	2.3	2.5	2.1	0.5

One of the most important labour force measurements is the participation rate, which represents the proportion of the working age population who are in the labour force. Analysis of the participation rates provides the basis for monitoring changes in the size and composition of labour supply, particularly in terms of age, sex and marital status.

LABOUR FORCE PARTICIPATION RATES
(THE LABOUR FORCE IN EACH GROUP AS A PERCENTAGE OF THE CIVILIAN POPULATION AGED 15 AND OVER IN THE SAME GROUP)



The following two tables provide more detailed information on the labour force status of persons. The first table presents the age and sex composition of the total labour force as at August 1988. The second table shows changes in labour force status over time.

CIVILIAN LABOUR FORCE, BY AGE, AUGUST 1988

	Number ('000)					*Participation rate (per cent)*				
		Females					*Females*			
Age group	*Males*	*Married*	*Not married*	*Total*	*Persons*	*Males*	*Married*	*Not married*	*Total*	*Persons*
15–64	4,606.7	1,894.1	1,278.7	3,172.8	7,779.5	83.3	55.2	63.6	58.3	70.9
15–19	401.7	13.5	371.3	384.8	786.6	56.5	49.5	56.3	56.0	56.3
20–24	597.3	147.5	344.7	492.2	1,089.5	90.2	64.2	81.9	75.7	83.0
25–34	1,262.6	562.6	275.2	837.7	2,100.4	93.7	57.1	75.4	62.1	77.9
35–44	1,160.8	675.2	149.9	825.1	1,985.9	94.2	67.5	71.8	68.2	81.3
45–54	743.1	372.7	93.3	465.9	1,209.0	87.3	56.3	60.3	57.1	72.5
55–59	273.3	88.0	26.2	114.1	387.4	73.6	31.0	32.5	31.4	52.7
60–64	167.8	34.8	18.2	53.0	220.8	47.2	14.1	15.2	14.5	30.6
65 and over	63.3	14.9	11.2	26.2	89.5	8.4	3.6	1.8	2.5	5.0
Total	**4,670.0**	**1,909.0**	**1,290.0**	**3,199.0**	**7,869.0**	**74.3**	**49.6**	**49.1**	**49.4**	**61.7**

CIVILIAN POPULATION AGED 15 AND OVER: LABOUR FORCE STATUS

		Unemployed							
August	*Employed*	*Looking for full-time work*	*Looking for part-time work*	*Total*	*Labour force*	*Not in the labour force*	*Civilian population aged 15 years and over*	*Unemployment rate*	*Participation rate*
				MALES					
				—'000—				—per cent—	
1983	3,903.6	409.5	20.2	429.7	4,333.3	1,379.2	5,712.5	9.9	75.9
1984	4,012.4	359.0	22.5	381.5	4,393.9	1,411.5	5,805.4	8.7	75.7
1985	4,089.0	324.5	23.7	348.1	4,437.1	1,459.7	5,896.9	7.8	75.2
1986	4,179.8	319.9	28.1	348.0	4,527.8	1,492.4	6,020.2	7.7	75.2
1987	4,262.3	317.3	29.7	347.0	4,609.3	1,548.5	6,157.8	7.5	74.9
1988	4,364.4	279.9	25.7	305.6	4,670.0	1,614.3	6,284.3	6.5	74.3
				FEMALES					
1983	2,337.4	197.9	59.3	257.1	2,594.6	3,299.1	5,893.7	9.9	44.0
1984	2,449.9	165.1	57.9	223.1	2,673.0	3,315.5	5,988.5	8.3	44.6
1985	2,557.1	162.4	60.7	223.0	2,780.1	3,302.8	6,082.8	8.0	45.7
1986	2,705.9	170.8	76.9	247.6	2,953.6	3,253.1	6,206.7	8.4	47.6
1987	2,810.8	178.1	76.9	254.9	3,065.8	3,279.6	6,345.4	8.3	48.3
1988	2,965.8	166.0	67.3	233.2	3,199.0	3,276.3	6,475.3	7.3	49.4

The age at which a person leaves full-time education and the level of educational attainment reached can affect the labour force status of that person. The following two tables set out the differential effects of these characteristics.

LEAVERS FROM EDUCATIONAL INSTITUTIONS(a): LABOUR FORCE STATUS AND AGE, MAY 1988

	Leavers aged 15 to 19			*Leavers aged 20 to 24*		
Labour force status	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
			—'000—			
Employed	91.6	83.6	175.2	28.7	28.1	56.8
Full-time	80.0	67.1	147.1	27.1	21.9	49.0
Part-time	11.6	16.5	28.1	*1.6	6.2	7.8
Unemployed	22.8	15.1	37.8	*2.3	*2.5	4.8
Labour Force	114.4	98.7	213.0	31.0	30.6	61.6
Not in Labour Force	6.5	6.5	13.0	*0.7	*2.7	*3.4
Total	**120.8**	**105.2**	**226.0**	**31.7**	**33.3**	**65.0**
			—per cent—			
Unemployment rate	19.9	15.3	17.8	*7.3	*8.2	7.8
Participation rate	94.7	93.8	94.3	97.7	91.8	94.7

(a) Leavers from educational institutions are persons who were full-time students at some time in the previous year but are not currently full-time students.

CIVILIAN POPULATION AGED 15 AND OVER(a): EDUCATIONAL ATTAINMENT AND LABOUR FORCE STATUS, FEBRUARY 1988

	Employed								
Educational attainment	*Full-time*	*Part-time*	*Total*	*Unemployed*	*Labour force*	*Not in labour force*	*Total*	*Participation rate*	*Unemployment rate*
MALES									
			—'000—					—per cent—	
With post-school qualifications	2,083.9	87.3	2,171.1	93.3	2,264.5	451.2	2,715.7	83.4	4.1
Degree	470.9	22.2	493.1	13.2	506.2	61.1	567.3	89.2	2.6
Trade qualification or apprenticeship	1,109.6	41.0	1,150.6	56.0	1,206.6	285.7	1,492.3	80.9	4.6
Certificate or diploma	497.6	23.0	520.6	22.8	543.4	103.3	646.7	84.0	4.2
Other	5.8	*1.1	6.9	*1.3	8.2	*1.1	9.4	87.9	*16.1
Without post-school qualifications *(b)*	1,973.3	147.0	2,120.3	242.5	2,362.8	851.2	3,214.0	73.5	10.3
Attended highest level of secondary school available	488.2	59.0	547.3	50.2	597.5	131.7	729.2	81.9	8.4
Did not attend highest level of secondary school available	1,465.8	85.6	1,551.4	189.6	1,741.0	703.9	2,444.9	71.2	10.9
Left at age—									
18 and over	24.8	*1.7	26.5	*4.1	30.5	7.5	38.1	80.2	*13.2
16 or 17	547.5	30.0	577.6	74.4	651.9	102.0	753.9	86.5	11.4
14 or 15	756.9	43.9	800.7	96.7	897.4	424.0	1,321.4	67.9	10.8
13 and under	136.6	10.0	146.6	14.5	161.1	170.4	331.5	48.6	9.0
Never attended school	5.9	*1.2	7.1	*1.5	8.6	12.7	21.3	40.2	*17.3
Still at school	*2.3	47.7	50.0	18.8	68.8	217.7	286.5	24.0	27.4
Total	**4,059.6**	**281.9**	**4,341.5**	**354.7**	**4,696.1**	**1,520.1**	**6,216.2**	**75.5**	**7.6**
FEMALES									
With post-school qualifications	797.5	401.6	1,199.1	91.2	1,290.2	678.9	1,969.1	65.5	7.1
Degree	190.7	55.0	245.7	14.2	259.8	75.6	335.5	77.5	5.4
Trade qualification or apprenticeship	51.7	30.7	82.3	6.8	89.1	94.0	183.1	48.7	7.6
Certificate or diploma	548.1	310.5	858.6	68.2	926.9	494.1	1,421.0	65.2	7.4
Other	7.1	5.4	12.4	*2.0	14.4	15.2	29.6	48.7	*13.7
Without post-school qualifications *(b)*	995.0	612.4	1,607.5	174.9	1,782.4	2,355.4	4,137.9	43.1	9.8
Attended highest level of secondary school available	261.8	125.8	387.6	48.0	435.6	281.4	716.9	60.8	11.0
Did not attend highest level of secondary school available	725.2	480.1	1,205.2	124.3	1,329.5	2,040.6	3,370.1	39.5	9.3
Left at age—									
18 and over	13.7	*4.0	17.7	*1.7	19.4	15.9	35.3	55.0	*9.0
16 or 17	317.9	170.9	488.9	52.9	541.7	416.1	957.9	56.6	9.8
14 or 15	347.4	276.3	623.7	64.9	688.6	1,276.1	1,964.7	35.0	9.4
13 and under	46.2	28.8	75.0	*4.8	79.8	332.4	412.2	19.3	*6.0
Never attended school	*2.6	*1.7	*4.3	*1.7	5.9	26.7	32.7	18.2	*28.3
Still at school	*0.8	70.3	71.1	22.0	93.1	206.9	300.0	31.0	23.7
Total	**1,793.4**	**1,084.3**	**2,877.7**	**288.1**	**3,165.8**	**3,241.2**	**6,407.0**	**49.4**	**9.1**

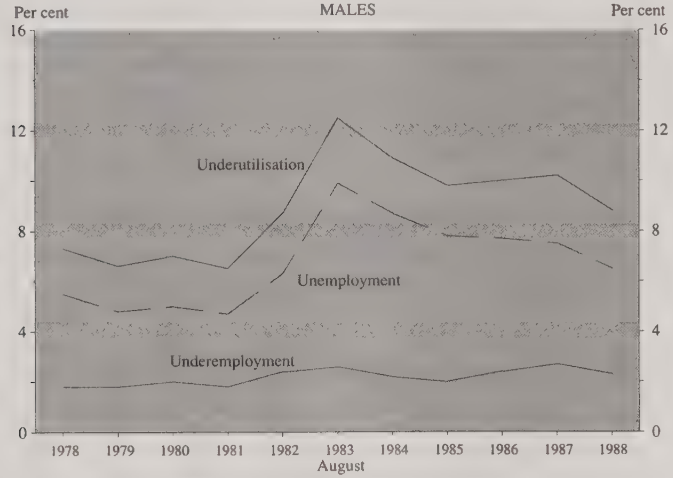
(a) Excludes students boarding at school, some patients in hospitals and sanatoriums and inmates of reformatories, gaols, etc.
(b) Includes persons for whom secondary school qualifications could not be determined.

In the light of the changing economic and social conditions of recent years, there is increasing concern whether the labour offered by individuals can be considered to be 'adequately utilised' by the labour market. A person's labour is deemed to be underutilised if the person is either unemployed or underemployed. Underemployment is deemed to exist when a person who usually works full-time does not work full-time in the reference period for economic reasons, which includes stand downs, short time, or insufficient work, or when a person who worked part-time indicated a preference to work more hours.

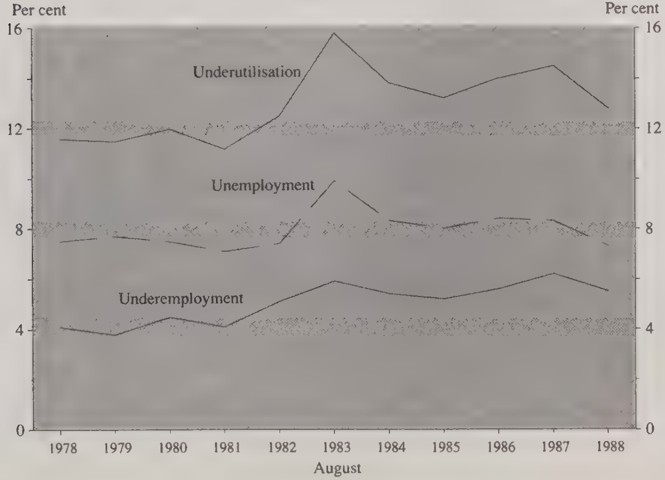
Underutilisation, underemployment and unemployment are summarised in the following graphs in which each category is expressed as a percentage of the labour force.

UNDERUTILISATION, UNDEREMPLOYMENT AND UNEMPLOYMENT RATES

MALES



FEMALES



Source: Employment, Underemployment Australia, 1966-1983 (6246.0). The Labour Force, Australia (6203.0).

Employment

This section provides a statistical summary of employment in Australia. Broadly, a person is considered to be employed if he or she is doing any work at all, regardless of the number of hours worked. In the statistics, employment is presented according to the demographic characteristics of employed persons, their occupation and industry, hours worked and whether they are full-time or part-time workers. Data for employed wage and salary earners by whether they work in the private or government sector and estimates for apprentices and qualified tradespersons are also included in this section. Most of the statistics on employment have been derived from the ABS monthly Labour Force Survey, the exception being the two tables on employed wage and salary earners by sector which were derived from the quarterly Survey of Employment and Earnings.

By relating employment levels to population levels, the magnitude of job growth in the economy can be evaluated. The measure relating these two levels is the employment/population ratio. Its usefulness lies in the fact that while movements in the employment level reflect net changes in the levels of persons holding jobs, movements in the ratio reflect net changes in the number of jobholders relative to changes in the size of the population. Note that while a rise in employment may not appear as a rise in the ratio because of continuous population growth, a decrease in employment will always appear as a fall in the ratio.

EMPLOYED PERSONS: EMPLOYMENT/POPULATION RATIOS (a)
(per cent)

	Age group (years)—								
August	*15–19*	*20–24*	*25–34*	*35–44*	*45–54*	*55–59*	*60–64*	*65 and over*	*Total*
				MALES					
1983	44.9	74.1	86.8	89.3	85.0	73.0	39.8	8.3	68.3
1984	46.0	76.6	87.8	89.9	85.0	72.6	39.9	8.8	69.1
1985	46.6	78.5	87.7	90.6	85.6	71.1	39.3	8.6	69.3
1986	47.7	78.1	88.4	90.0	85.1	71.2	42.3	8.3	69.4
1987	47.2	78.2	88.0	89.9	85.8	70.3	41.6	8.4	69.2
1988	48.0	80.4	88.5	90.6	83.4	68.9	43.4	8.3	69.4
				FEMALES					
1983	44.4	62.7	47.8	54.1	46.2	27.3	11.9	2.1	39.7
1984	44.7	64.3	51.1	55.4	47.8	26.6	11.4	2.5	40.9
1985	46.5	65.9	53.3	58.2	48.0	26.2	11.1	1.9	42.0
1986	45.6	67.1	55.5	60.8	52.0	27.5	12.5	1.9	43.6
1987	43.2	67.6	57.2	61.8	52.8	29.6	13.1	2.6	44.3
1988	47.1	67.4	58.0	64.9	54.9	30.5	13.9	2.5	45.8
				PERSONS					
1983	44.6	68.4	67.3	71.9	66.0	50.3	25.3	4.7	53.8
1984	45.4	70.5	69.5	72.9	66.8	49.8	25.2	5.2	54.8
1985	46.6	72.2	70.6	74.6	67.2	48.9	24.8	4.8	55.5
1986	46.6	72.7	72.0	75.6	68.9	49.5	27.1	4.6	56.3
1987	45.2	72.9	72.6	76.0	69.6	50.1	27.1	5.0	56.6
1988	47.5	74.0	73.2	77.9	69.4	49.9	28.4	5.0	57.4

(a) Employment/population ratio for any group is the number of employed persons expressed us a percentage of the civilian population aged 15 and over in the same group.

The table below presents the status of worker for employed persons. Employers, self-employed persons and wage and salary earners are those who, during the reference week, worked for one hour or more for pay, profit, commission or payment in kind in a job or a business, or on a farm. From April 1986, unpaid family helpers are those who, during the reference week, worked for one hour or more without pay in a family business or on a farm. Prior to April 1986, when a new definition was introduced, unpaid family helpers were those who worked for 15 hours or more without pay in a family business or on a farm.

EMPLOYED PERSONS: STATUS OF WORKER
('000)

August	*Employers*	*Self-employed*	*Wage and salary earners*	*Unpaid family helpers*	*Total*
1983	321.0	653.1	5,242.5	24.5	6,241.1
1984	335.4	681.8	5,423.8	21.2	6,462.3
1985	349.7	709.7	5,559.1	27.6	6,646.1
1986	343.4	745.5	5,730.8	66.0	6,885.7
1987	362.3	729.6	5,921.8	59.4	7,073.2
1988	378.9	741.7	6,143.0	66.5	7,330.1

A measure of the relative importance of an industry is the size of its workforce. Also of interest is the work effort of that workforce as measured by hours worked. Taken together, employment and hours worked by industry serve as an indicator of labour supplied to that industry. The following table shows the distribution of employed persons by industry and average weekly hours worked.

EMPLOYED PERSONS BY INDUSTRY AND AVERAGE WEEKLY HOURS WORKED
AUGUST 1988

	Number ('000)			*Average weekly hours worked*		
Industry	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
Agriculture, forestry, fishing and hunting	307.2	123.8	431.0	47.9	27.3	42.0
Mining	88.8	8.0	96.7	41.5	37.2	41.2
Manufacturing	883.0	316.4	1,199.4	40.4	33.0	38.5
Food, beverages and tobacco	115.2	48.1	163.3	39.5	32.6	37.5
Metal products	182.8	23.1	205.9	41.5	31.9	40.4
Other manufacturing	585.0	245.2	830.2	40.3	33.1	38.2
Electricity, gas and water	102.5	11.4	113.8	33.9	30.0	33.5
Construction	459.3	66.9	526.2	40.4	21.1	38.0
Wholesale and retail trade	835.2	660.9	1,496.1	41.2	27.5	35.1
Transport and storage	303.7	73.1	376.7	40.3	30.2	38.3
Communication	98.8	35.4	134.2	34.4	29.8	33.2
Finance, property and business services	401.2	400.0	801.1	42.0	31.3	36.7
Public administration and defence	200.0	121.6	321.6	36.2	31.4	34.4
Community services	460.9	844.0	1,304.9	39.2	29.5	32.9
Recreation, personal and other services	223.9	304.4	528.3	38.9	27.6	32.4
Total	**4,364.4**	**2,965.8**	**7,330.1**	**40.6**	**29.3**	**36.0**

The following table sets out the distribution of employed persons across occupations.

EMPLOYED PERSONS BY OCCUPATION, AUGUST 1988
('000)

Occupation (a)	*Males*	*Married females*	*All females*	*Persons*
Managers and administrators	624.5	163.0	196.1	820.5
Professionals	544.1	224.2	361.2	905.3
Para-professionals	256.6	107.3	188.3	444.9
Tradespersons	1,065.4	59.5	105.9	1,171.4
Clerks	286.6	599.7	968.5	1,255.1
Salespersons and personnel service workers	364.5	332.3	660.5	1,025.0
Plant and machine operators, and drivers	482.1	70.4	102.0	584.1
Labourers and related workers	740.5	261.8	383.2	1,123.7
Total	**4,364.4**	**1,818.2**	**2,965.8**	**7,330.1**

(a) Classified according to the *Australian Standard Classification of Occupations* (ASCO), 1986.

Full-time workers are those who usually work 35 hours or more a week or who worked 35 hours or more during the reference week. Part-time workers are those who usually work less than 35 hours a week and who did so during the reference week. Estimates of these workers by sex and age are shown in the following table.

EMPLOYED PERSONS: FULL-TIME AND PART-TIME WORKERS BY AGE AUGUST 1988
('000)

	Age group (years)—								
	15–19	*20–24*	*25–34*	*35–44*	*45–54*	*55–59*	*60–64*	*65 and over*	*Total*
				MALES					
Full-time workers	238.0	491.1	1,151.6	1,084.4	683.3	237.8	131.5	42.7	4,060.4
Part-time workers	102.8	41.2	39.9	32.4	26.7	18.1	22.6	20.1	303.9
Total	**340.8**	**532.3**	**1,191.6**	**1,116.9**	**709.9**	**255.9**	**154.1**	**62.8**	**4,364.4**
				FEMALES					
Full-time workers	180.7	356.4	489.2	417.2	253.9	60.7	26.7	10.9	1,795.5
Part-time workers	142.7	81.9	293.7	368.2	194.0	50.4	24.3	15.0	1,170.2
Total	**323.4**	**438.3**	**782.9**	**785.3**	**447.8**	**111.1**	**51.0**	**25.9**	**2,965.8**

Estimates of employed wage and salary earners by sector are contained in the following tables. The estimates shown are derived from the quarterly Survey of Employment and Earnings.

EMPLOYED WAGE AND SALARY EARNERS: SECTOR BY STATES AND TERRITORIES JUNE 1988
('000)

Sector	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Private	1,535.4	1,191.3	588.7	339.8	361.2	96.3	32.4	53.9	4,198.9
Public	573.6	455.0	253.5	151.5	159.6	52.3	21.7	72.5	1,739.8
Commonwealth	135.4	97.7	50.2	35.2	26.2	9.7	5.1	72.0	431.7
State	376.5	313.3	176.5	107.8	123.1	39.2	(a)15.7	0.5	1,152.6
Local	61.8	44.0	26.9	8.4	10.2	3.4	0.8	..	155.5
Total	**2,109.1**	**1,646.3**	**842.2**	**491.2**	**520.8**	**148.6**	**54.1**	**126.4**	**5,938.7**

(a) Northern Territory Government.

EMPLOYED WAGE AND SALARY EARNERS: INDUSTRY BY SECTOR
('000)

	Private sector				*Public sector*			
Industry	*Sept. 1987*	*Dec. 1987*	*Mar. 1988*	*June 1988*	*Sept. 1987*	*Dec. 1987*	*Mar. 1988*	*June 1988*
Agriculture, forestry, fishing and hunting *(a)*	..	..	..	..	8.7	8.0	8.0	8.1
Mining	77.7	78.2	79.5	77.8	7.2	7.1	6.9	6.8
Manufacturing	1,007.8	1,022.2	1,023.4	1,004.0	47.9	45.3	47.3	43.9
Electricity, gas and water	5.6	5.6	5.8	5.7	124.8	123.7	123.2	122.5
Construction	215.6	225.6	238.7	244.9	43.9	43.2	42.8	42.4
Wholesale and retail trade	1,140.2	1,195.4	1,191.8	1,221.5	4.9	5.0	4.6	4.7
Transport and storage	144.4	152.1	151.8	147.0	144.6	145.2	140.9	140.5
Communication	0.6	0.7	0.7	0.6	132.7	134.0	131.6	129.9
Finance, property and business services	596.1	604.4	629.5	630.8	106.1	106.0	106.0	105.5
Public administration and defence *(b)*	—	—	—	—	316.3	317.3	320.0	318.1
Community services	458.8	456.5	453.2	459.7	784.8	771.5	773.6	792.4
Health	229.9	229.8	223.5	224.8	284.7	285.6	287.3	290.0
Education	92.9	96.0	100.9	101.9	381.4	365.2	364.9	379.9
Other	136.1	130.7	128.8	133.0	118.7	120.6	121.5	122.4
Recreation, personal and other services	393.0	420.3	418.8	406.9	24.5	24.3	25.0	25.1
Total all industries	**4,039.8**	**4,161.0**	**4,193.2**	**4,198.9**	**1,746.4**	**1,730.5**	**1,730.0**	**1,739.8**

(a) Out of scope of survey for private sector. *(b)* Excludes members of permanent defence forces and employees of overseas embassies, consulates etc.

A table on sector and industry of apprentices and the year of their apprenticeship follows. The data were derived from the Transition from Education to Work Supplementary Survey conducted in May 1988.

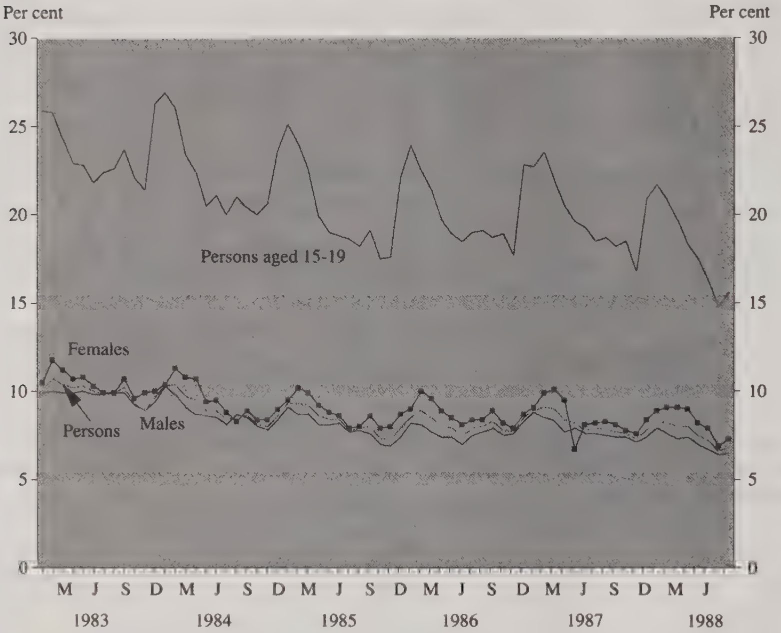
APPRENTICES: SECTOR AND INDUSTRY, MAY 1988
('000)

	Year of apprenticeship				
	First	*Second*	*Third*	*Fourth(a)*	*Total*
Sector—					
Public	4.5	6.9	*3.9	4.9	20.2
Private*(b)*	35.2	35.0	33.8	28.8	132.8
Industry—					
Manufacturing	9.8	13.7	9.1	11.5	44.1
Electricity, gas and water	*1.4	*0.9	*1.1	*0.9	4.2
Construction	8.5	5.6	7.5	5.4	27.1
Wholesale and retail trade	10.4	9.9	10.3	6.9	37.5
Transport and storage; communication	*0.9	*2.2	*1.1	*0.7	5.0
Community services	*0.8	*1.2	*1.1	*1.5	4.6
Recreation, personal and other services	5.7	5.6	5.2	*3.6	20.1
Other *(c)*	*2.2	*2.7	*2.3	*3.2	10.4
Total	**39.7**	**41.9**	**37.7**	**33.7**	**153.0**

(a) Includes a small number of fifth year apprentices. *(b)* Includes a small number of persons for whom sector could not be determined. *(c)* Includes agriculture, etc.; mining; finance, property and business services; and public administration and defence.

Unemployment

UNEMPLOYMENT RATES
(THE UNEMPLOYED IN EACH GROUP AS A PERCENTAGE OF CIVILIAN LABOUR FORCE IN THE SAME GROUP)



The unemployment statistics presented in this section have been derived from the ABS monthly Labour Force Survey and its supplementaries.

Broadly, a person is considered to be unemployed if he or she satisfies three criteria—not employed, available for work, and taking active steps to find work. The most important characteristics presented include their demographic composition, the duration of unemployment and their educational qualifications. Also shown are some summary statistics on job vacancies.

Measures of unemployment provide one indicator of the underutilisation of labour. The two most important measures are the number of persons unemployed and the unemployment rate. The unemployment rate is defined as the number of unemployed expressed as a percentage of the size of the labour force.

By examining particular groups and characteristics of the unemployed, various economic and social aspects of unemployment can be analysed. While the aggregate unemployment rates shown above are important overall indicators, full-time and part-time unemployment levels and rates for different age groups by sex and marital status are also important. This information is set out in the table below, along with whether those aged 15–24 are looking for their first job.

UNEMPLOYED PERSONS: AGE AND WHETHER LOOKING FOR FULL-TIME OR PART-TIME WORK, AUGUST 1988

	Number unemployed ('000)				*Unemployment rate (per cent)*			
Age	*Males*	*Married females*	*All females*	*Persons*	*Males*	*Married females*	*All females*	*Persons*
LOOKING FOR FULL-TIME WORK								
Total	**279.9**	**61.0**	**166.0**	**445.9**	**6.4**	**6.0**	**8.5**	**7.1**
Aged 15–19	*47.7*	**3.2*	*38.8*	*86.5*	*16.7*	**32.8*	*17.7*	*17.1*
Looking for first job	19.1	*1.0	17.4	36.6	. .	. .	. .	. .
Attending school	*3.6	*0.0	*2.9	6.5	n.a.	n.a.	n.a.	n.a.
Attending a tertiary educational institution full-time	*2.3	*0.1	*2.2	4.5	n.a.	n.a.	n.a.	n.a.
Aged 20 and over	*232.2*	*57.8*	*127.2*	*359.4*	*5.7*	*5.7*	*7.3*	*6.2*
20–24	60.0	10.7	42.6	102.6	10.9	9.7	10.7	10.8
Looking for first job	4.4	*1.1	6.8	11.2	. .	. .	. .	. .
25–34	69.3	19.7	38.7	108.0	5.7	6.6	7.3	6.2
35–44	42.3	16.3	28.3	70.6	3.8	4.9	6.4	4.5
45–54	32.0	10.0	15.0	47.0	4.5	5.0	5.6	4.8
55 and over	28.7	*1.1	*2.6	31.3	6.5	*1.6	*2.6	5.8
Aged 15–64	*279.9*	*61.0*	*166.0*	*445.9*	*6.5*	*6.0*	*8.5*	*7.1*
LOOKING FOR PART-TIME WORK								
Total	**25.7**	**29.9**	**67.3**	**92.9**	**7.8**	**3.4**	**5.4**	**5.9**
Aged 15–19	*13.2*	**1.0*	*22.7*	*35.9*	*11.4*	**26.4*	*13.7*	*12.8*
Attending school	9.7	*0.0	15.1	24.8	13.1	*0.0	15.4	14.4
Attending a tertiary educational institution full-time	*2.5	*0.3	5.6	8.2	*14.4	*56.5	17.7	16.5
Aged 20 and over	*12.5*	*28.9*	*44.6*	*57.1*	*5.8*	*3.3*	*4.2*	*4.4*
20–24	5.0	4.5	11.2	16.3	10.9	12.1	12.1	11.7
Attending a tertiary educational institution full-time	4.6	*0.0	*2.5	7.1	19.7	*0.0	*10.7	15.2
25–34	*1.8	12.8	16.2	17.9	*4.2	4.8	5.2	5.1
35–44	*1.6	8.5	11.5	13.1	*4.8	2.5	3.0	3.2
45 and over	4.1	*3.1	5.7	9.8	4.4	*1.3	2.0	2.6
Aged 15–64	*25.2*	*29.9*	*67.0*	*92.2*	*8.2*	*3.4*	*5.5*	*6.0*

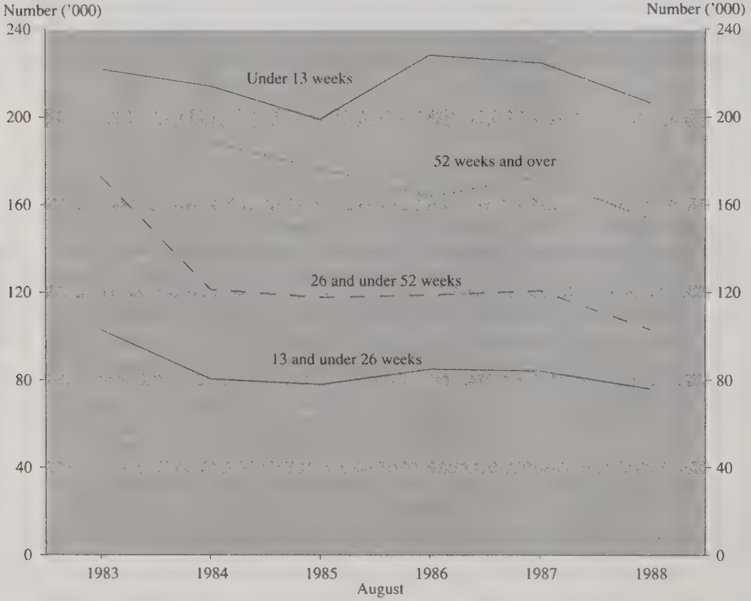
An important indicator of the severity of unemployment is the length of time a person is unemployed. Two views are presented—the chart depicts the increase in each duration of unemployment category from 1983 to 1988 while the table shows more detail as at August 1988. Note that in each case, only current and continuing periods of unemployment are shown rather than completed spells. This is because, in the monthly Labour Force Survey, duration of unemployment is the period from the time a person began looking for work or was laid off to the end of the reference week and only applies if the person is still unemployed.

UNEMPLOYED PERSONS: DURATION OF UNEMPLOYMENT AND AGE, AUGUST 1988

Duration of unemployment (weeks)	*Age group (years)—*							*Looking for*	
	15–19	*20–24*	*25–34*	*35–54*	*Total(a)*	*Married*	*Not married*	*Full-time work*	*Part-time work*
					—'000—				
Under 2	9.1	9.8	11.6	8.8	41.0	17.7	23.2	26.4	14.6
2 and under 4	17.8	8.9	14.5	12.2	54.5	21.0	33.4	38.9	15.6
4 and under 8	16.2	12.3	13.9	14.9	60.5	24.1	36.3	48.1	12.4
8 and under 13	12.3	11.7	13.0	11.5	50.6	19.1	31.5	41.8	8.8
13 and under 26	19.1	20.9	18.1	15.1	76.0	27.4	48.6	63.5	12.5
26 and under 39	23.8	19.1	14.1	17.8	78.5	29.7	48.8	63.8	14.6
39 and under 52	5.6	5.0	5.0	7.3	24.5	12.1	12.4	22.5	*1.9
52 and under 65	5.6	6.7	7.5	10.8	33.7	15.9	17.8	30.4	*3.3
65 and under 104	4.1	7.7	6.9	8.3	29.8	12.6	17.2	26.5	*3.3
104 and over	8.8	16.6	21.3	28.1	89.9	40.8	49.2	84.0	6.0
Total	**122.4**	**118.8**	**125.9**	**134.9**	**538.8**	**220.4**	**318.4**	**445.9**	**92.9**
Average duration—									
Mean	*28.5*	*46.9*	*52.8*	*60.5*	*51.5*	*55.3*	*48.8*	*56.2*	*28.9*
Median	*14*	*21*	*16*	*27*	*22*	*26*	*20*	*26*	*8*

(a) Includes persons aged 55 and over, details for whom are not shown separately.

UNEMPLOYED PERSONS: DURATION OF UNEMPLOYMENT



Also of interest is the industry and occupation of their last full-time job. These estimates are set out in the table which follows.

UNEMPLOYED PERSONS: INDUSTRY AND OCCUPATION OF LAST FULL-TIME JOB AUGUST 1988

	Total ('000)			*Unemployment rate (per cent)*		
	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
Had worked full time for two weeks or more in the last two years	*185.8*	*98.4*	*284.2*	*4.1*	*3.2*	*3.7*
Industry—						
Agriculture, forestry, fishing and hunting	15.2	4.1	19.3	4.7	3.2	4.3
Agriculture and services to agriculture	12.6	4.1	16.7	4.2	3.3	4.0
Manufacturing	48.5	17.1	65.6	5.2	5.1	5.2
Food, beverages and tobacco	11.2	4.7	15.9	8.9	8.9	8.9
Metal products	6.4	*1.1	7.5	3.4	*4.6	3.5
Other manufacturing	30.9	11.3	42.2	5.0	4.4	4.8
Construction	23.4	*1.6	25.0	4.8	*2.4	4.5
Wholesale and retail trade	39.1	28.8	67.9	4.5	4.2	4.3
Wholesale trade	11.3	4.6	15.9	3.4	3.2	3.4
Retail trade	27.8	24.2	52.0	5.1	4.4	4.8
Transport and storage	9.9	*2.4	12.3	3.2	*3.1	3.2
Finance, property and business services	10.0	7.5	17.5	2.4	1.8	2.1
Public administration and defence	10.1	5.1	15.2	4.8	4.0	4.5
Community services	8.8	16.3	25.1	1.9	1.9	1.9
Recreation, personal and other services	12.1	14.6	26.7	5.1	4.6	4.8
Other industries	8.8	*1.0	9.7	2.9	*1.7	2.7
Occupation major group *(a)*						
Managers and administrators	9.6	*3.4	13.1	1.5	*1.7	1.6
Professionals	7.7	5.1	12.8	1.4	1.4	1.4
Para-professionals	5.4	*2.7	8.1	2.1	*1.4	1.8
Tradespersons	39.9	*3.8	43.7	3.6	*3.5	3.6
Clerks	9.6	22.0	31.6	3.2	2.2	2.5
Salespersons and personal service workers	16.3	29.3	45.6	4.3	4.2	4.3
Plant and machine operators, and drivers	24.1	5.3	29.4	4.8	4.9	4.8
Labourers and related workers	73.2	26.7	99.8	9.0	6.5	8.2
Other (b)	*117.2*	*128.9*	*246.1*	. .	. .	. .
Looking for first job	37.3	53.4	90.6	. .	. .	. .
Looking for full-time work	26.4	29.8	56.2	. .	. .	. .
Other	79.9	75.5	155.4	. .	. .	. .
Stood down	**2.6*	*6.0*	*8.6*	. .	. .	. .
Total	**305.6**	**233.2**	**538.8**	**6.5**	**7.3**	**6.8**

(a) Classified according to the *Australian Standard Classification of Occupations* (ASCO), 1986. *(b)* Had never worked for two weeks or more in a full-time job or had not done so in the last two years; industry and occupation were not obtained for these persons.

UNEMPLOYED PERSONS: ACTIVE STEPS TAKEN TO FIND FULL-TIME OR PART-TIME WORK, JULY 1988

	Looking for full-time work				*Looking for part-time work*			
	Males	*Females*	*Persons*		*Males*	*Females*	*Persons*	
Active steps taken to find work during current period of unemployment	*—'000—*			*(per cent)*	*—'000—*			*(per cent)*
Registered with the CES and—								
Took no other active steps	*2.9	*1.9	4.8	1.1	*0.3	*2.1	*2.4	*3.1
Contacted prospective employers	224.0	109.9	333.9	78.3	6.2	20.9	27.1	35.3
Took other active steps	18.8	8.2	26.9	6.3	*0.5	*3.2	*3.7	*4.8
Total	*245.7*	*119.9*	*365.6*	*85.7*	*7.0*	*26.2*	*33.2*	*43.2*
Not registered with the CES and—								
Contacted prospective employers	27.8	29.7	57.4	13.5	10.7	27.4	38.1	49.6
Took other active steps	*1.7	*2.0	*3.7	*0.9	*1.6	*3.9	5.5	7.2
Total	*29.5*	*31.6*	*61.1*	*14.3*	*12.3*	*31.3*	*43.6*	*56.8*
Total	**275.1**	**151.6**	**426.7**	**100.0**	**19.2**	**57.5**	**76.8**	**100.0**

The number of unemployed persons shown above will differ from the number of unemployed persons shown in *The Labour Force, Australia* (6203.0). This is because the latter includes persons who are waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than four weeks up to the end of the reference week (including the whole of the reference week) for reasons other than bad weather or plant breakdown. Active steps taken to find work (also shown above) comprise writing, telephoning or applying in person to an employer for work; answering a newspaper advertisement for a job; checking factory or Commonwealth Employment Service (CES) noticeboards; being registered with the CES; checking or registering with any other employment agency; advertising or tendering for work; and contacting friends or relatives.

Job Vacancies

Job vacancy statistics taken together with unemployment statistics assist in the assessment of the demand for labour. However, unemployment and job vacancy statistics should be regarded as complementary indicators. This is because the monthly Labour Force Survey (which collects unemployment) and a quarterly survey of employers (which collects job vacancies) utilise different collection methodologies, sample designs, definitions and concepts.

A job vacancy is a job available for immediate filling on the survey date and for which recruitment action had been taken by the employer. Recruitment action includes efforts to fill vacancies by advertising, by factory notices, by notifying public or private employment agencies or trade unions and by contacting, interviewing or selecting applicants already registered with the enterprise or organisation. Excluded are jobs available only to existing employees of the organisation; vacancies of less than one day's duration; vacancies to be filled by persons already hired or by promotion or transfer of existing employees; vacancies to be filled by employees returning from paid or unpaid leave or after industrial dispute(s); vacancies not available for immediate filling on the survey date; vacancies not available within the particular State or Territory to which the survey return relates; vacancies for work carried out under contract; vacancies for which no effort is being made to fill the position and vacancies which are available only to persons employed by government departments or authorities.

Statistics on job vacancies are produced from a survey conducted each quarter. Background information about the job vacancies series is provided in *Information Paper: New Statistical Series: Employment, Average Weekly Earnings, Job Vacancies and Overtime* (6256.0) issued on 21 June 1984.

JOB VACANCIES: STATES AND TERRITORIES
('000)

Month	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1984 May	14.7	8.9	4.0	2.5	2.0	0.6	0.6	1.5	34.8
1985 May	22.3	16.8	4.7	3.6	4.3	1.2	1.1	2.5	56.6
1986 May	21.1	16.8	4.6	2.6	4.1	1.3	1.1	2.7	54.4
1987 May	19.9	17.6	4.0	3.5	5.5	1.0	0.7	1.6	53.8
1988 May	22.0	18.6	6.6	3.1	4.8	0.7	0.7	1.9	58.5

JOB VACANCY RATES(a): STATES AND TERRITORIES
(per cent)

Month	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1984 May	0.8	0.7	0.5	0.6	0.5	0.5	1.1	1.4	0.7
1985 May	1.2	1.2	0.6	0.8	1.0	0.9	2.3	2.3	1.1
1986 May	1.1	1.1	0.6	0.5	0.9	0.9	2.0	2.0	1.0
1987 May	1.1	1.2	0.5	0.7	1.1	0.7	1.5	1.3	r1.0
1988 May	1.0	1.2	0.8	0.7	0.9	0.5	1.3	1.4	1.0

(a) Job vacancy rate is calculated by expressing the number of job vacancies as a percentage of the number of employees plus vacancies.

Persons Not in the Labour Force

Persons not in the labour force represent that group of the population who, during a particular week, are not employed or unemployed. Interest in this group centres primarily around their potential to participate in the labour force.

In this section, information has been derived from the supplementary survey of persons not in the labour force. Attention is given to demographic characteristics as well as focussing on degree of attachment to the labour force. Aspects such as whether they want a job, or whether they are discouraged jobseekers, are emphasised.

CIVILIAN POPULATION AGED 15 AND OVER: LABOUR FORCE STATUS ('000)

	March 1985	*Sept. 1985*	*March 1986*	*Sept. 1986*	*March 1987*	*March 1988*
Civilian population aged 15 and over	11,897.3	11,998.5	12,121.7	12,249.5	12,394.7	12,642.1
Employed	6,634.5	6,783.9	6,926.3	7,007.6	7,109.1	7,366.1
Unemployed	671.7	587.7	640.4	631.6	702.5	642.3
Persons not in the labour force	4,591.1	4,626.9	4,555.1	4,610.3	4,583.1	4,633.6
With marginal attachment to the labour force	708.3	739.7	707.3	749.4	709.8	739.0
Wanted to work and were actively looking for work	32.1	60.4	35.2	57.2	31.1	33.8
Were available to start work within four weeks	22.2	30.2	25.0	26.9	23.6	27.1
Were not available to start work within four weeks	9.9	30.2	10.2	30.3	7.6	6.7
Wanted to work but were not actively looking for work and were available to start work within four weeks	676.3	679.4	672.1	692.1	678.7	705.2
Discouraged jobseekers	96.0	89.0	96.8	90.5	100.2	98.0
Other	580.3	590.4	575.3	601.6	578.5	607.2
Without marginal attachment to the labour force	3,882.8	3,887.1	3,847.8	3,860.9	3,873.3	3,894.6
Wanted to work but were not actively looking for work and were not available to start work within four weeks	222.7	265.2	261.4	262.7	235.5	254.3
Did not want to work	3,399.1	3,380.1	3,340.8	3,345.3	3,368.8	3,382.8
Permanently unable to work	54.4	47.8	51.1	57.2	46.8	55.2
Institutionalised*(a)* and boarding school pupils	206.6	194.1	194.4	195.8	222.1	202.3

(a) Includes some patients in hospitals and sanatoriums and inmates of reformatories, gaols, etc.

Persons with marginal attachment to the labour force are those who were not in the labour force in the reference week and wanted to work and were available to start work within four weeks; or were actively looking for work but were not available to start work within four weeks. Discouraged jobseekers, a sub-category of those with marginal attachment, are those persons who wanted to work and were available to start work within four weeks but whose main reason for not taking active steps to find work was that they believed they would not be able to find a job for any of the following reasons:

- considered by employers to be too young or too old;
- difficulties with language or ethnic background;
- lacked the necessary schooling, training, skills or experience;
- no jobs in their locality or line of work, or no jobs at all.

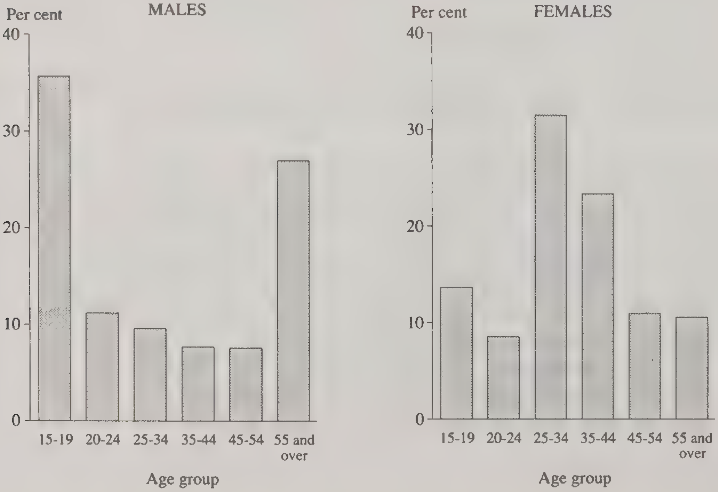
The following table gives an age and sex breakdown for persons with marginal attachment. Females account for 74.9 per cent of the marginally attached. While the age distribution of females with marginal attachment is similar to that of females in the labour force, teenage males (15 to 19) are over-represented among males with marginal attachment to the labour force, accounting for 35.9 per cent of that group.

PERSONS NOT IN THE LABOUR FORCE WITH MARGINAL ATTACHMENT TO THE LABOUR FORCE: AGE, MARCH 1988

('000)

	Persons who wanted to work and were actively looking for work			*Persons who wanted to work but were not actively looking for work and were available to start work within four weeks*			*Persons with marginal attachment to the labour force*		
Age group (years)	*Were available to start work within four weeks*	*Were not available to start work within four weeks*	*Total*	*Discouraged job-seekers*	*Other*	*Total*	*Males*	*Females*	*Persons*
15–19	5.0	*2.2	7.3	7.9	128.1	136.1	66.6	76.8	143.3
20–24	*4.4	*0.4	4.9	*2.7	62.2	64.9	21.1	48.7	69.8
25–34	9.0	*1.5	10.6	15.3	168.0	183.2	18.2	175.6	193.8
35–44	4.5	*1.8	6.3	19.0	120.3	139.3	14.7	130.8	145.5
45–54	*2.8	*0.3	*3.1	15.4	57.8	73.2	14.5	61.8	76.3
55–59	*0.7	*0.2	*0.9	11.6	25.6	37.1	11.7	26.4	38.0
60–64	*0.4	*0.0	*0.4	10.7	25.0	35.7	18.8	17.3	36.1
65 and over	*0.2	*0.2	*0.4	15.5	20.2	35.7	19.9	16.2	36.1
Total	**27.1**	**6.7**	**33.8**	**98.0**	**607.2**	**705.2**	**185.5**	**553.6**	**739.0**

PERSONS NOT IN THE LABOUR FORCE WITH MARGINAL ATTACHMENT TO THE LABOUR FORCE: AGE AND SEX, MARCH 1988



Details of the reason people ceased their last job are presented in the following table. The most frequent reasons persons with marginal attachment gave for ceasing their last job were 'pregnancy or to have children' (136,400) and retrenched (73,900).

PERSONS NOT IN THE LABOUR FORCE WITH MARGINAL ATTACHMENT TO THE LABOUR FORCE: REASON FOR CEASING LAST JOB, MARCH 1988

('000)

		Persons who wanted to work but were not actively looking for work and were available to start work within four weeks			*Persons with marginal attachment to the labour force*		
Reason for ceasing last job	*Persons who wanted to work and were actively looking for work*	*Discouraged job seekers*	*Other*	*Total*	*Males*	*Females*	*Persons*
Had had a job	28.3	87.7	507.2	594.9	134.5	488.8	623.2
Job loser	11.2	33.0	155.1	188.2	62.1	137.2	199.3
Retrenched	5.6	15.4	52.9	68.3	23.6	50.3	73.9
Job was temporary or seasonal and did not leave to return to studies	*3.2	9.4	40.0	49.4	8.8	43.9	52.6
Own ill health or injury	*1.8	6.2	53.1	59.3	26.7	34.5	61.2
Business closed down for economic reasons	*0.5	*2.0	9.2	11.2	*3.0	8.6	11.6
Job leaver	17.1	54.7	340.4	395.1	70.0	342.3	412.3
Unsatisfactory work arrangements	*2.5	4.7	21.3	26.0	5.5	23.0	28.4
Job was temporary or seasonal and left to return to studies	*1.5	*0.6	14.0	14.6	9.1	7.0	16.1
Retired/didn't want to work any longer	*0.3	13.5	35.9	49.4	24.1	25.6	49.7
Returned to studies	*1.8	*0.0	24.3	24.3	11.7	14.4	26.1
To get married	*0.6	6.7	32.1	38.8	*0.2	39.2	39.4
Pregnancy/to have children	*3.8	9.7	123.0	132.7	*0.2	136.3	136.4
To look after family, house or someone else	*1.4	4.6	29.5	34.2	*3.7	31.8	35.5
To have holiday/to move house/ spouse transferred	*3.9	9.6	39.7	49.3	6.7	46.5	53.2
Business closed down for other reasons	*0.5	*3.2	9.3	12.5	5.0	8.0	13.0
Other	*0.9	*0.9	11.4	13.6	*4.0	10.5	14.5
Not asked *(a)*	. .	. .	11.6	11.6	*2.4	9.2	11.6
Had never had a job	5.6	10.3	99.9	110.2	51.0	64.8	115.8
Total	**33.8**	**98.0**	**607.2**	**705.2**	**185.5**	**553.6**	**739.0**

(a) Persons who had a job but, up to the end of the reference week, had been away from work without pay for four weeks or longer and had not been actively looking for work.

The following table shows that 28.9 per cent of the 705,200 persons not in the labour force who wanted to work but were not actively looking for work and were available to start work within four weeks, did not intend to look for work in the next twelve months.

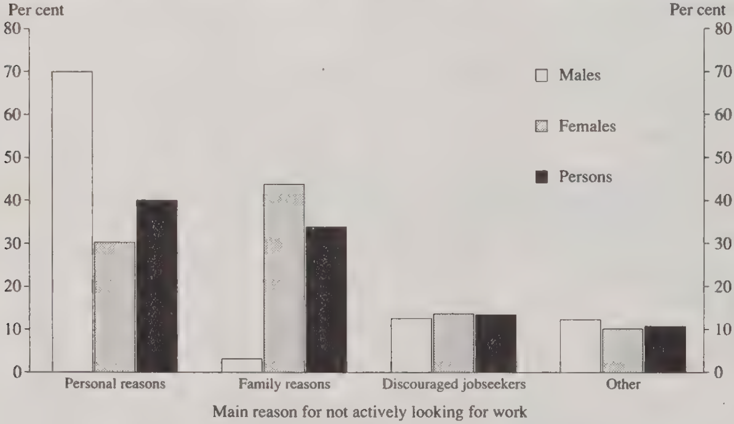
PERSONS NOT IN THE LABOUR FORCE WHO WANTED TO WORK BUT WERE NOT ACTIVELY LOOKING FOR WORK AND WERE AVAILABLE TO START WORK WITHIN FOUR WEEKS: INTENTION TO LOOK FOR WORK IN THE NEXT TWELVE MONTHS AND SEX, MARCH 1988

	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
		—'000—			—per cent—	
Intended to look	93.6	215.4	309.0	54.5	40.4	43.8
Might look	24.2	111.0	135.2	14.1	20.8	19.2
Did not intend to look	42.3	161.4	203.7	24.6	30.3	28.9
Did not know	5.1	28.1	33.1	3.0	5.3	4.7
Not asked *(a)*	6.8	17.4	24.2	4.0	3.3	3.4
Total	**171.9**	**533.3**	**705.2**	**100.0**	**100.0**	**100.0**

(a) Comprises persons who had a job to go to and persons who had a job but, up to the end of the reference week, had been away from work without pay for four weeks or longer and had not been actively looking for work.

The following chart depicts, for persons not in the labour force who wanted to work but were not actively looking for work and were available to start work within four weeks, their main reason for not actively looking for work. That is, whether they were not actively looking for work predominantly because of personal reasons, family reasons, or discouragement.

PERSONS NOT IN THE LABOUR FORCE WHO WANTED TO WORK BUT WERE NOT ACTIVELY LOOKING FOR WORK AND WERE AVAILABLE TO START WORK WITHIN FOUR WEEKS: MAIN REASON FOR NOT ACTIVELY LOOKING FOR WORK, MARCH 1988



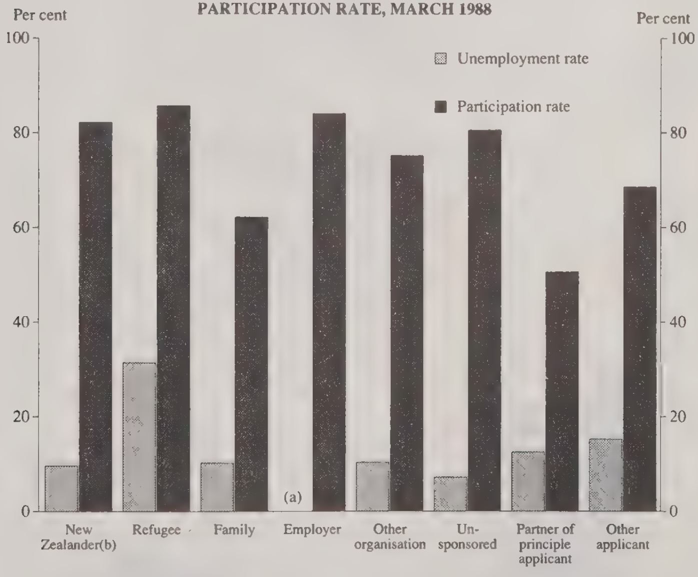
Labour Force Characteristics of Migrants

Immigration is an important factor influencing present and future levels of labour market activity. Information on the labour force characteristics of migrants was obtained from the monthly Labour Force Survey. Also additional data were obtained from the March 1987 supplementary survey on labour force participation of various categories of migrants (e.g. sponsored by employer, refugee, etc.). Some summary data from the survey are shown in the following tables and charts.

MIGRANTS WHO ARRIVED IN AUSTRALIA AFTER 1960 AGED 18 AND OVER: LABOUR FORCE STATUS AND YEAR OF ARRIVAL, MARCH 1987

Year of arrival	Employed			Unemployed	Labour force	Not in labour force	Total	Unemployment rate	Participation rate
	Full-time	Part-time	Total						
MALES									
				—'000—				—per cent—	
1961–1970	199.8	9.4	209.2	15.4	224.6	57.4	282.1	6.9	79.6
1971–1980	191.3	5.7	196.9	18.7	215.7	30.1	245.8	8.7	87.7
1981–1987	131.3	6.6	137.8	26.5	164.3	22.3	186.6	16.1	88.1
Total	**522.4**	**21.6**	**544.0**	**60.6**	**604.6**	**109.8**	**714.5**	**10.0**	**84.6**
FEMALES									
1961–1970	70.0	49.3	119.3	8.5	127.9	134.4	262.3	6.7	48.8
1971–1980	89.7	43.9	133.6	14.6	148.2	105.5	253.7	9.8	58.4
1981–1987	66.5	22.5	88.9	26.0	115.0	85.7	200.6	22.6	57.3
Total	**226.2**	**115.7**	**341.9**	**49.1**	**391.0**	**325.6**	**716.6**	**12.6**	**54.6**

MIGRANTS WHO ARRIVED IN AUSTRALIA AFTER 1960 AGED 18 AND OVER: MIGRATION CATEGORY, UNEMPLOYMENT RATE AND PARTICIPATION RATE, MARCH 1988

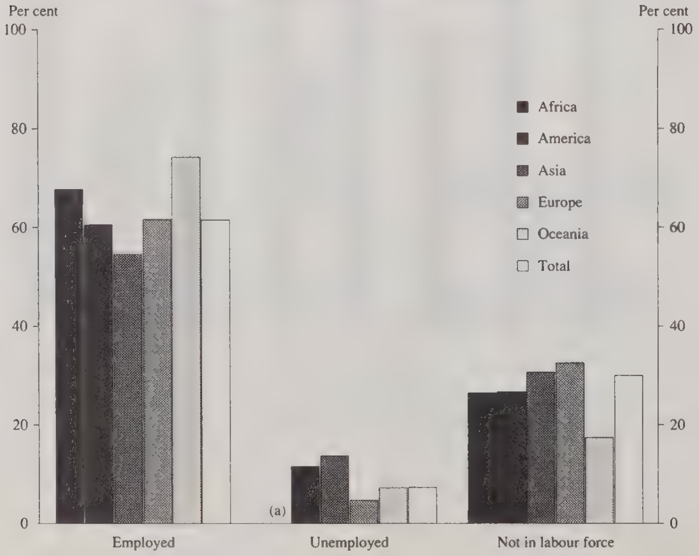


(a) Subject for sampling variabilty too high for most practical purpose. (b) Includes persons born in New Zealand and those whose place of last residence was New Zealand.

MIGRANTS WHO ARRIVED IN AUSTRALIA AFTER 1960 AGED 18 AND OVER: LABOUR FORCE STATUS AND AGE AT MARCH 1987

	Age at March 1987 (years)						
Labour force status	*18–24*	*25–34*	*35–44*	*45–54*	*55–64*	*65 and over*	*Total*
MALES							
				—'000—			
Employed	14.1	116.2	213.5	145.4	52.4	*2.4	544.0
Full-time	12.9	111.4	205.9	141.3	49.3	*1.5	522.4
Part-time	*1.2	4.8	7.5	4.1	*3.1	*0.9	21.6
Unemployed	*3.1	17.2	19.0	12.3	8.7	*0.4	60.6
Labour force	17.2	133.4	232.4	157.7	61.1	*2.8	604.6
Not in labour force	*1.9	5.7	12.2	19.1	29.6	41.3	109.8
Total	**19.1**	**139.1**	**244.6**	**176.8**	**90.7**	**44.1**	**714.5**
				—per cent—			
Unemployment rate	*17.8	12.9	8.2	7.8	14.2	*15.0	10.0
FEMALES							
				—'000—			
Employed	19.2	82.9	136.1	79.7	21.8	*2.2	341.9
Full-time	16.4	63.0	84.6	49.0	12.6	*0.7	226.2
Part-time	*2.8	19.9	51.6	30.7	9.2	*1.6	115.7
Unemployed	5.4	14.7	16.9	9.5	*2.7	*0.0	49.1
Labour force	24.6	97.6	153.0	89.2	24.4	*2.2	391.0
Not in labour force	6.5	55.1	74.7	69.1	60.0	60.3	325.6
Total	**31.1**	**152.7**	**227.6**	**158.2**	**84.4**	**62.6**	**716.6**
				—per cent—			
Unemployment rate	21.9	15.1	11.0	10.7	*11.0	*0.0	12.6

MIGRANTS WHO ARRIVED IN AUSTRALIA AFTER 1960 AGED 18 AND OVER: BIRTHPLACE AND LABOUR FORCE STATUS



(a) Estimate subject to sampling variability too high for most practical uses.

Retirement and Retirement Intentions

In the November 1986 supplementary survey to the Labour Force Survey, persons aged 45 and over were asked about their retirement, or their intentions to retire, from full-time work. The survey provides information on the flows and potential flows out of the labour force and on the provision being made by persons for their retirement. A summary of the results of the survey is shown in the following tables.

PERSONS WHO HAD RETIRED FROM FULL-TIME WORK: AGE AT RETIREMENT AND AGE AT NOVEMBER 1986

	Age at November 1986 (years)							
Age at retirement	*45–49*	*50–54*	*55–59*	*60–64*	*65–69*	*70 and over*	*Total*	
				MALES				
				—'000—				—per cent—
Less than 45	16.8	13.7	7.9	4.8	*2.9	*2.8	49.0	5.2
45–49	7.3	12.6	8.7	4.1	*2.1	*1.9	36.7	3.9
50–54	. .	12.2	25.3	22.1	6.7	6.7	73.0	7.8
55–59	. .	. .	33.7	71.1	36.2	20.0	160.9	17.2
60–64	. .	. .	. .	84.7	119.4	114.9	319.1	34.1
65–69	. .	. .	. .	. .	62.1	199.8	261.9	28.0
70 and over	. .	. .	. .	. .	. .	36.0	36.0	3.8
Total	*24.1*	*38.5*	*75.7*	*186.8*	*229.4*	*382.1*	*936.6*	*100.0*
				FEMALES				
Less than 45	169.6	138.8	140.2	136.2	108.3	185.5	878.6	60.2
45–49	18.7	34.1	24.9	17.6	13.8	9.7	118.9	8.2
50–54	. .	22.1	47.2	38.4	22.4	22.0	152.1	10.4
55–59	. .	. .	25.2	47.0	31.4	28.1	131.8	9.0
60–64	. .	. .	. .	26.9	38.4	64.1	129.3	8.9
65–69	. .	. .	. .	. .	7.9	29.9	37.7	2.6
70 and over	. .	. .	. .	. .	. .	9.9	9.9	0.7
Total	*188.3*	*195.1*	*237.5*	*266.1*	*222.2*	*349.2*	*1,458.4*	*100.0*
				PERSONS				
Less than 45	186.4	152.5	148.2	141.0	111.2	188.3	927.6	38.7
45–49	26.0	46.7	33.6	21.7	15.9	11.6	155.6	6.5
50–54	. .	34.3	72.5	60.5	29.1	28.7	225.1	9.4
55–59	. .	. .	58.9	118.1	67.6	48.1	292.8	12.2
60–64	. .	. .	. .	111.6	157.8	179.0	448.4	18.7
65–69	. .	. .	. .	. .	70.0	229.6	299.6	12.5
70 and over	. .	. .	. .	. .	. .	45.9	45.9	1.9
Total	**212.4**	**233.6**	**313.3**	**452.9**	**451.6**	**731.3**	**2,395.0**	**100.0**

PERSONS AGED 45 AND OVER (a): RETIRED AND NOT RETIRED FROM FULL-TIME WORK BY AGE, NOVEMBER 1986 ('000)

	Age at November 1986 (years)						
	45–49	*50–54*	*55–59*	*60–64*	*65–69*	*70 and over*	*Total*
Had retired from full-time work	212.4	233.6	313.3	452.9	451.6	731.3	2,395.0
Had not retired at age less than 45	186.4	152.5	148.2	141.0	111.2	188.3	927.6
Had retired at age 45 and over	26.0	81.1	165.1	311.9	340.4	543.0	1,467.4
Had retired early	26.0	81.1	165.1	285.0	232.0	203.4	992.5
Had not retired early	. .	. .	. .	26.9	108.4	339.6	474.9
Had not retired from full-time work	585.3	454.6	365.1	180.2	32.6	18.8	1,636.6
Did not intend to retire from full-time work	42.2	34.9	32.3	23.2	13.8	13.3	159.7
Intended to retire from full-time work	543.1	419.7	332.8	157.0	18.8	5.5	1,476.9
Intended to retire early	175.2	117.7	82.1	16.2	. .	. .	391.3
Did not intend to retire early	211.2	187.0	174.2	105.1	9.5	*1.9	688.8
Did not know age intended to retire	156.7	115.0	76.5	35.7	9.3	3.6	396.8
Had never worked full-time and did not intend to work full-time	41.9	45.8	51.4	77.2	79.6	193.5	489.4
Total	**839.5**	**734.0**	**729.7**	**710.3**	**563.8**	**943.6**	**4,521.1**

(a) Excludes persons who were institutionalised or permanently unable to work who were not in the scope of this survey.

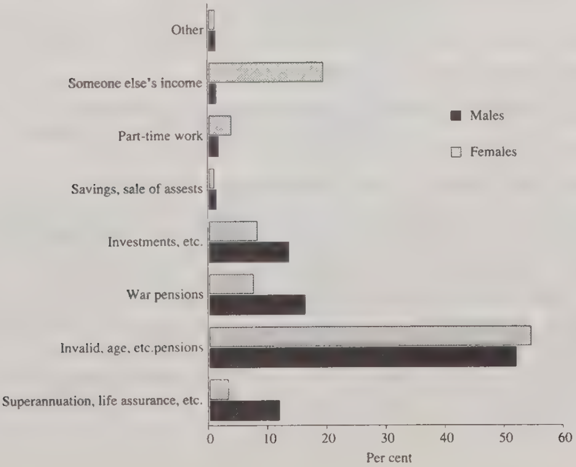
PERSONS WHO HAD RETIRED FROM FULL-TIME WORK AT AGE 45 AND OVER: SUMMARY OF CHARACTERISTICS AND AGE AT RETIREMENT, NOVEMBER 1986

	Age at retirement (years)							
	45–49	*50–54*	*55–59*	*60–64*	*65–69*	*70 and over*	*Total*	
	—'000—							per cent
Belonged to a retirement scheme	33.2	53.7	123.1	225.7	125.5	10.4	571.6	39.0
Had superannuation cover	28.3	46.2	112.7	207.6	112.2	6.6	513.5	35.0
In last full-time job	27.3	44.5	110.3	204.2	108.3	5.3	499.8	34.1
In some previous job	*1.0	*1.7	——5.8——		3.9	*1.3	13.7	0.9
Had life assurance or similar scheme	5.0	7.5	10.4	18.1	13.3	3.8	58.1	4.0
Did not belong to a retirement scheme	122.3	171.4	169.7	222.7	174.1	35.5	895.8	61.0
Total	**155.6**	**225.1**	**292.8**	**448.4**	**299.6**	**45.9**	**1,467.4**	**100.0**
Superannuation, life assurance, or similar scheme	4.3	10.7	37.3	72.1	27.0	*2.3	153.7	10.5
Invalid/age/supporting parent's/widow's pension	32.5	61.9	83.7	146.4	189.2	23.3	537.0	36.6
War disability/repat./service/war widow's pension	4.7	10.7	24.6	86.9	15.0	*2.1	144.0	9.8
Investments/interest/stocks/debentures, etc.	8.1	18.5	42.8	53.0	27.3	10.1	159.9	10.9
Savings/sale of assets	6.4	13.8	27.8	38.3	21.0	4.9	112.1	7.6
Part-time work	11.9	13.8	10.2	11.0	8.0	*1.5	56.3	3.8
Someone else's income	77.4	85.3	55.3	27.2	7.6	*1.0	253.8	17.3
Other	10.3	10.4	11.1	13.4	4.4	*0.8	50.5	3.4
Total	**155.6**	**225.1**	**292.8**	**448.4**	**299.6**	**45.9**	**1,467.4**	**100.0**

PERSONS WHO INTENDED TO RETIRE FROM FULL-TIME WORK: AGE INTENDED TO RETIRE AND AGE AT NOVEMBER 1986

	Age at November 1986 (years)							
Age intended to retire	*45–49*	*50–54*	*55–59*	*60–64*	*65–69*	*70 and over*	*Total*	
MALES								
	—'000—							—per cent—
45–49	*0.8	. .	. .	. .	. .	. .	*0.8	*0.1
50–54	7.4	*2.3	. .	. .	. .	. .	9.6	0.9
55–59	41.2	25.7	12.7	. .	. .	. .	79.6	7.2
60–64	74.6	63.8	62.8	16.2	. .	. .	217.5	19.8
65–69	149.2	131.2	133.0	88.7	4.4	. .	506.4	46.1
70 and over	3.7	4.4	*3.3	3.9	3.9	*1.5	20.8	1.9
Did not know	96.3	74.5	56.2	26.9	6.5	*3.2	263.6	24.0
Total	*374.4*	*301.8*	*268.0*	*135.7*	*14.8*	*4.8*	*1,099.5*	*100.0*
FEMALES								
45–49	4.9	. .	. .	. .	. .	. .	4.9	1.3
50–54	19.5	7.0	. .	. .	. .	. .	26.5	7.0
55–59	25.6	19.0	6.5	. .	. .	. .	51.2	13.6
60–64	49.8	42.2	29.8	6.1	. .	. .	127.9	33.9
65–69	7.9	8.2	7.0	5.5	*0.4	. .	29.0	7.7
70 and over	*0.6	*0.9	*1.1	*1.0	*0.8	*0.4	4.8	1.3
Did not know	60.4	40.6	20.4	8.8	*2.8	*0.4	133.3	35.3
Total	*168.7*	*117.9*	*64.8*	*21.3*	*4.0*	**0.7*	*377.5*	*100.0*
PERSONS								
45–49	6.9	. .	. .	. .	. .	. .	6.9	0.5
50–54	26.9	9.2	. .	. .	. .	. .	36.1	2.4
55–59	66.8	44.7	19.2	. .	. .	. .	130.7	8.9
60–64	124.4	106.0	92.7	22.3	. .	. .	345.4	23.4
65–69	157.1	139.4	139.9	94.2	4.9	. .	535.4	36.3
70 and over	4.3	5.3	4.5	4.9	4.7	*1.9	25.6	1.7
Did not know	156.7	115.0	76.5	35.7	9.3	3.6	396.8	26.9
Total	**543.1**	**419.7**	**332.8**	**157.0**	**18.8**	**5.5**	**1,476.9**	**100.0**

PERSONS WHO HAD RETIRED FROM FULL-TIME WORK AT AGE 45 AND OVER: MAIN SOURCE OF INCOME AT NOVEMBER 1986



PERSONS WHO INTENDED TO RETIRE FROM FULL-TIME WORK: SUMMARY OF CHARACTERISTICS AND AGE INTENDED TO RETIRE, NOVEMBER 1986

	Age intended to retire							
	Males			*Females*			*Persons (a)*	
	45–64	*65 and over*	*Total(a)*	*45–59*	*60 and over*	*Total(a)*		
				—'000—				per cent
Belonged to a retirement scheme	259.4	351.9	755.9	44.0	80.0	167.9	923.8	62.6
Had superannuation cover	239.3	297.9	651.0	39.5	70.8	144.1	795.1	53.8
In job at November 1986	230.8	278.9	616.1	38.7	66.9	138.8	754.8	51.1
In some previous job	8.5	19.0	35.0	*0.8	4.0	5.4	40.3	2.7
Had life assurance or similar scheme	20.1	54.0	104.9	4.5	9.2	23.8	128.7	8.7
Did not belong to a retirement scheme	49.3	175.3	343.6	38.5	81.6	209.5	553.1	37.4
Total	**308.7**	**527.2**	**1,099.5**	**82.6**	**161.6**	**377.5**	**1,476.9**	**100.0**
Superannuation, life assurance, or similar scheme	127.8	116.7	289.8	12.5	28.2	51.7	341.5	23.1
Invalid/age/supporting parent's/widow's pension	40.8	298.7	427.3	10.1	75.7	128.9	556.2	37.7
War disability/repat/service/war widow's pension	10.4	9.0	22.9	*0.1	*3.1	4.2	27.1	1.8
Investments/interest/stocks/debentures, etc.	67.4	42.1	148.8	11.2	15.9	38.4	187.2	12.7
Savings/sale of assets	20.7	17.7	59.0	4.1	5.1	16.3	75.3	5.1
Part-time work	15.5	10.6	33.4	*1.6	*1.5	5.1	38.5	2.6
Someone else's income	*2.9	*2.6	6.8	39.7	23.9	95.9	102.7	7.0
Other	7.6	*3.2	14.9	*0.7	*1.1	4.6	19.5	1.3
Did not know	15.5	26.5	96.6	*2.6	7.2	32.4	128.9	8.7
Total	**308.7**	**527.2**	**1,099.5**	**82.6**	**161.6**	**377.5**	**1,476.9**	**100.0**

(a) Includes persons who did not know at what age they intended to retire.

Wage Rates, Earnings and Income

Industrial conciliation and arbitration

Legal minimum rates of pay for some 90 per cent of Australian wage and salary earners are prescribed in awards and determinations of federal and State industrial tribunals or in collective agreements registered with them.

In June 1983 the Australian Conciliation and Arbitration Commission met to consider the formulation of new wage fixing principles in relation to the determination of national wage adjustments based on movements in the consumer price index.

On 23 September 1983, the Commission announced that it would try once again to operate a centralised system based on prima facie full indexation. It awarded an increase of 4.3 per cent, based on CPI movements for the March and June 1983 quarters. The increase was operative from 6 October 1983 in all States except Queensland where it was operative from 10 October 1983. The increase was awarded on condition that any award be varied only if every union party to the award gave a public and unequivocal commitment to the new principles announced by the Commission. The majority of unions had given this commitment.

Under this new system, the Commission was to adjust its award wages and salaries every six months in relation to the last two quarterly movements of the CPI unless it was persuaded to the contrary.

The subsequent round of hearings in February–March 1984 resulted in the recommendation of a 4.1 per cent increase based on CPI movements for the September and December 1983 quarters. The increase was operative from 6 April 1984 in all States except Queensland where it was operative from 9 April 1984. The ABS treatment of the method of financing medical services under the Medicare scheme introduced in February 1984 resulted in a negative movement in the CPI for the March and June 1984 quarters. This led to agreement that no applications would be made to the Commission in relation to these quarters during October 1984.

The hearings in February–March 1985 resulted in the recommendation of a 2.6 per cent increase based on CPI movements for the September and December 1984 quarters. The increase was operative from 6 April 1985 in all States except Queensland where it was operative from 15 April 1985. In Queensland a number of awards were varied by 1.6 per cent only, while under some others there was no increase.

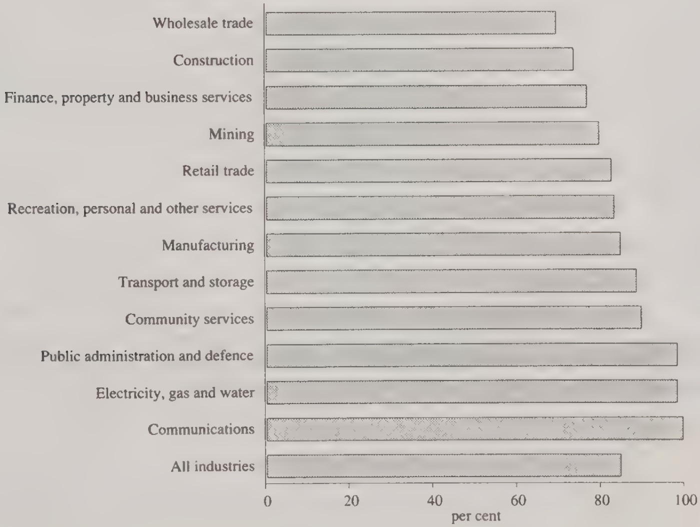
Following the National Wage Case hearings in October 1985, the Commission awarded an increase of 3.8 per cent to operate from the beginning of the first pay period to commence on or after 4 November 1985. The Commission also decided to defer discounting of wages for the price effects of devaluation until the next National Wage Case hearings.

In July 1986 the Commission awarded a 2.3 per cent increase, effective from 1 July 1986 in all States, except Queensland where it was effective from 7 July 1986.

In March 1987, a two tier wage fixing system superseded the CPI-based indexation. The first tier was a flat increase of $10 per week payable to all employees. The second tier was a percentage increase of up to 4 per cent, a maximum rate set by the Commission, negotiable between employees and employers.

National Wage Case hearings were held in February 1988 and, in accordance with the two tier wage fixing principles a flat increase of $6 per week was handed down by the Commission. A subsequent percentage increase will be recommended by the Commission.

AWARD COVERAGE: EMPLOYEE CATEGORIES, AUSTRALIA, MAY 1985



Incidence of industrial awards

Details are shown of the award coverage of employees obtained as a part of a sample survey conducted in May 1985. The survey was designed primarily to provide statistics of the distribution and composition of weekly earnings and hours of employees. The award coverage estimates shown are based on responses to a question which asked if employees had coverage under an award, determination, or registered collective agreement.

Employees covered by awards, etc. are employees whose rates of pay and conditions of work are normally varied in accordance with variations in a specific federal or State award, determination or collective agreement or a specific unregistered collective agreement (unregistered collective agreements dealing only with over-award pay are not included). Employees not covered by awards, etc. are those employees whose rates of pay and conditions of work are not varied in accordance with variations in a specific federal or State award, etc.

INCIDENCE OF AWARDS: ALL EMPLOYEES BY INDUSTRY, MAY 1985
(per cent)

	Males				*Females*			
	Covered by awards, determinations and collective agreements			*Not covered by awards, etc.*	*Covered by awards, determinations and collective agreements*			*Not covered by awards, etc.*
Industry	*Federal*	*State*	*Total(a)*		*Federal*	*State*	*Total(a)*	
Mining	53.1	26.2	81.9	18.1	*29.7	*27.4	*60.9	*39.1
Manufacturing	48.9	32.5	84.0	16.0	39.7	46.7	87.9	12.1
Food, beverages and tobacco	25.5	56.3	85.7	14.3	20.4	69.1	91.4	*8.6
Textiles; Clothing and footwear	56.7	*23.0	80.7	*19.3	63.2	30.7	94.2	*5.8
Paper, paper products, printing and publishing	45.4	28.8	84.9	15.1	*33.5	44.0	80.6	*19.4
Chemical, petroleum and coal products	36.2	32.5	70.7	29.3	*21.3	59.3	81.1	*18.9
Metal products, machinery and equipment	62.3	22.1	85.6	14.4	49.3	37.3	88.3	*11.7
Basic metal products	38.8	46.3	85.7	*14.3	*29.1	*48.6	*77.7	*22.3
Fabricated metal products; Other machinery and equipment	61.0	17.8	80.6	19.4	42.1	42.2	86.6	*13.4
Transport equipment	80.0	13.6	94.0	*6.0	75.2	*20.4	96.0	—
Other manufacturing	39.7	41.1	82.6	17.4	*25.2	54.6	80.9	*19.1
Electricity, gas and water	38.6	59.9	98.5	—	*44.0	*54.3	98.3	—
Construction	35.4	38.9	77.0	23.0	*10.8	42.0	56.0	44.0
Wholesale trade	28.1	33.4	66.2	33.8	11.8	62.2	77.2	22.8
Retail trade	30.4	45.8	77.9	22.1	6.3	80.5	87.5	12.5
Transport and storage	55.3	31.5	90.6	9.4	47.2	29.7	79.3	*20.7
Communication	99.8	—	99.9	—	99.6	—	99.9	—
Finance, property and business services	32.1	28.7	69.1	30.9	29.1	46.4	84.2	15.8
Public administration and defence	53.4	44.3	98.6	—	64.7	32.3	98.2	—
Community services	14.0	72.9	88.4	11.6	6.9	82.6	90.9	9.1
Recreation, personal and other services	31.6	46.6	81.1	18.9	27.3	56.5	85.2	*14.8
All industries	**40.0**	**40.5**	**83.4**	**16.6**	**21.6**	**63.4**	**87.4**	**12.6**

(a) Includes small numbers of employees covered by unregistered collective agreements.

INCIDENCE OF AWARDS: ALL EMPLOYEES BY OCCUPATION GROUP, MAY 1985
(per cent)

	Males				*Females*			
	Covered by awards, determinations and collective agreements			*Not covered by awards, etc.*	*Covered by awards, determinations and collective agreements*			*Not covered by awards, etc.*
Occupational group	*Federal*	*State*	*Total(a)*		*Federal*	*State*	*Total(a)*	
Professional, technical and related employees	27.7	48.9	78.9	21.1	8.8	81.2	92.1	7.9
Nurses	—	97.5	100.0	—	*4.6	93.9	99.0	*1.0
Teachers	13.0	77.7	93.1	*6.9	6.1	86.3	95.0	*5.0
Draftspersons and technicians	46.5	35.9	84.3	15.7	*23.8	61.0	86.8	*13.2
Other professionals	31.3	30.6	64.6	35.4	20.1	47.6	71.7	28.3
Administrative, executive and managerial employees	15.7	13.0	34.8	65.2	—	—	—	66.0
Clerical employees	48.6	33.4	87.0	13.0	27.9	53.4	85.4	14.6
Sales employees	17.7	57.1	78.2	21.8	4.2	83.4	88.6	11.4
Farmers, fisherpersons and related employees	*25.1	61.0	87.5	*12.5	*10.8	*76.2	*91.6	*8.4
Miners, quarry and related employees	57.1	*26.9	86.6	*13.4	—	—	—	—
Employees in transport and communications	49.9	38.3	91.7	8.3	*41.0	44.1	88.2	*11.8
Tradespersons, production-process employees and labourers, n.e.c.	52.9	37.7	92.5	7.5	53.8	40.0	94.8	5.2
Textile, clothing, footwear and leather goods makers and related employees	60.4	*37.1	93.5	*6.5	64.4	32.6	97.2	*2.8
Machine toolmakers, metal machinists, mechanics, plumbers and related metal employees	63.8	27.2	92.3	7.7	*50.9	*40.6	*91.5	*8.5
Electricians and related electrical and electronics employees	67.1	27.6	95.7	*4.3	*93.6	*3.0	*96.7	*3.3
Metalmaking and related employees	68.3	26.8	95.5	*4.5	90.4	*5.2	95.7	*4.3
Carpenters, cabinetmakers and related employees, building etc. tradespersons and construction employees	41.5	44.2	87.3	12.7	*27.3	*57.8	*85.2	*14.8
Packers, wrappers, labellers, storepersons and freight handlers	41.1	50.9	94.3	*5.7	*25.8	67.2	94.1	*5.9
Labourers, apprentices, factory employees, n.e.c.	42.5	47.5	92.8	7.2	*48.1	*41.9	92.7	*7.3
Service, sport and recreation employees	20.1	71.2	92.3	*7.7	17.8	71.5	90.0	*10.0
Other	97.2	—	97.2	—	—	—	79.9	—
All occupations	**40.0**	**40.5**	**83.4**	**16.6**	**21.6**	**63.4**	**87.4**	**12.6**

(*a*) Includes small numbers of employees covered by unregistered collective agreements.

Award rates of pay indexes

The award rates of pay indexes are based on a representative sample of award designations, designed to measure trends in rates payable under awards. The indexes are based on the occupation structure existing in May 1985. The base period chosen for the indexes is June 1985. Estimates of minimum award rates of pay for each component of the series are expressed as index numbers such that June 1985=100.0.

INDEXES OF WEEKLY AWARD RATES OF PAY FULL-TIME ADULT EMPLOYEES:INDUSTRY, AUSTRALIA

(Base: Weighted Average Minimum Award Rate, June 1985=100.0)
(Index Numbers)

	Males			*Females*		
	1985	*1986*	*1987*	*1985*	*1986*	*1987*
Industry			*—December—*			
Manufacturing—						
Food, beverages, tobacco	103.8	106.3	110.7	103.8	106.5	111.1
Textiles; Clothing, and footwear	103.8	106.2	112.1	103.8	106.2	112.7
Paper, printing and publishing	103.8	106.2	111.0	103.8	106.2	111.2
Chemicals, petroleum, and coal	103.8	106.3	110.9	103.8	106.5	110.5
Metal products, machinery and equipment	103.8	106.2	112.0	103.8	106.2	112.4
Basic metal products	103.9	106.2	111.0	103.9	106.2	111.1
Fabricated metal products, Other machinery and equipment	103.8	106.2	112.8	103.8	106.2	112.4
Transport equipment	103.8	106.2	111.7	103.8	106.2	112.7
Other manufacturing *(a)*	103.8	106.2	112.2	103.8	106.2	111.5
Non-manufacturing—						
Mining	103.7	106.1	112.3	103.8	106.1	113.3
Electricity, gas and water	103.8	106.3	110.3	103.8	106.4	111.0
Construction	103.8	106.2	110.9	103.8	106.2	110.5
Wholesale trade	103.8	106.2	111.0	103.8	106.2	110.5
Retail trade	103.8	106.2	110.4	103.8	106.2	110.2
Transport and storage	103.8	106.2	110.4	103.8	106.2	110.6
Communication	103.8	106.2	111.9	103.9	106.3	113.1
Finance, property and business services	103.8	106.2	109.7	103.8	106.2	110.2
Public administration and defence *(b)*	103.8	106.3	109.3	103.8	106.2	109.5
Community services	103.9	106.5	109.3	103.8	107.7	111.5
Recreation, personal and other services	103.9	106.3	110.5	103.8	106.2	110.3
Total all industries *(c)*	**103.8**	**106.3**	**110.6**	**103.8**	**106.8**	**111.1**

(a) Includes wood, wood products and furniture; non-metallic mineral products; and miscellaneous manufacturing. *(b)* Excludes employees in the defence forces. *(c)* Excludes employees in the defence forces, agriculture, services to agriculture and employees in private households employing staff.

Average weekly earnings

Statistics of average weekly earnings are produced quarterly, and are based on employment and earnings information obtained from a sample survey of employers. They relate to earnings of employees in respect of one week's earnings from a single pay period ending on or before the third Friday of the middle month of the quarter. If, for a particular survey respondent, that pay period was affected unduly by an industrial dispute, plant breakdown, fire, etc., particulars for the previous normal pay period were obtained. Weekly total earnings are gross earnings in a pay period, while weekly ordinary time earnings refers to that part of weekly total earnings attributable to award, standard or agreed hours of work.

Statistics of average weekly earnings are published in the quarterly publication *Average Weekly Earnings, States and Australia* (6302.0). The current series was introduced in November 1983, to complete the redevelopment of average weekly earnings series from that based principally on information from payroll tax returns. Average weekly earnings statistics were revised back to August 1981 with the introduction of the new series.

AVERAGE WEEKLY EARNINGS OF EMPLOYEES, AUSTRALIA

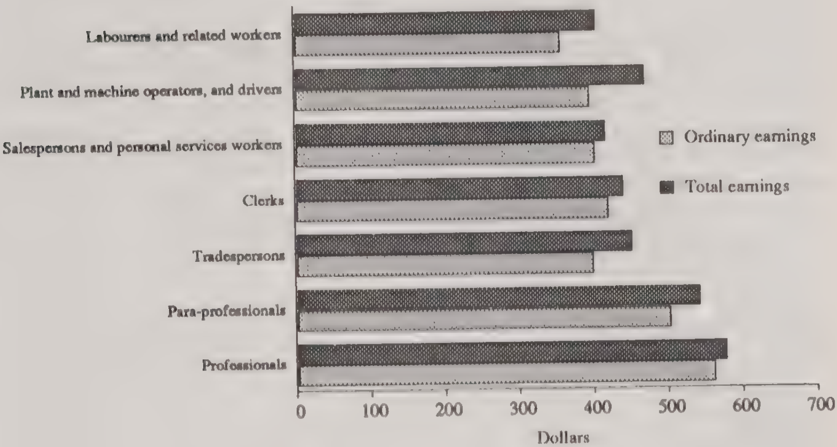
Reference period—pay period ending on or before	*Males*			*Females*			*Persons*		
	Full-time adults		*All males*	*Full-time adults*		*All females*	*Full-time adults*		*All employees*
	Average weekly ordinary time earnings	*Average weekly total earnings*	*Average weekly total earnings*	*Average weekly ordinary time earnings*	*Average weekly total earnings*	*Average weekly total earnings*	*Average weekly ordinary time earnings*	*Average weekly total earnings*	*Average weekly total earnings*
					—dollars—				
1984—									
17 February	376.20	400.70	370.60	304.10	311.00	246.50	353.10	371.90	321.30
18 May	388.00	415.70	383.80	316.90	324.20	257.10	365.20	386.30	333.40
17 August	392.40	419.20	386.20	319.00	326.70	256.20	369.00	389.80	334.30
16 November	397.80	427.30	389.50	325.50	333.50	255.10	375.30	398.10	335.40
1985—									
15 February	399.60	429.00	392.70	328.40	335.90	260.10	377.50	400.10	340.10
17 May	404.50	435.50	397.20	334.40	343.10	263.40	382.80	406.90	344.10
16 August	409.80	441.60	403.10	338.70	346.80	265.00	387.90	412.50	347.80
15 November	419.60	453.60	413.90	345.30	353.70	268.40	396.90	423.10	355.60
1986—									
21 February	427.20	460.10	422.70	352.80	360.60	276.40	404.20	429.50	364.10
16 May	432.60	465.90	425.50	356.40	364.90	278.20	409.20	434.90	366.50
15 August	444.00	476.20	437.20	363.60	371.90	282.90	418.90	443.70	373.70
21 November	452.10	488.60	446.30	372.70	382.00	287.60	427.20	455.20	380.60
1987—									
20 February r	454.40	487.70	444.50	375.70	384.10	291.00	429.60	455.10	381.30
15 May	461.30	497.40	450.90	383.00	393.10	298.90	436.20	464.00	387.30
21 August	470.30	504.50	457.00	388.90	398.20	302.30	444.20	470.50	392.50
20 November	477.50	516.30	470.00	392.00	401.90	306.50	450.10	479.70	401.80
1988—									
19 February	485.70	522.40	474.90	402.20	412.20	315.30	458.80	486.90	408.80

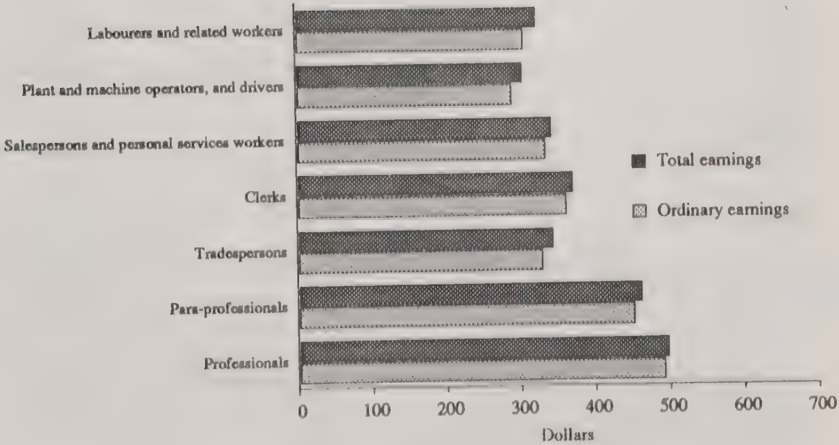
In the November survey, additional information is collected relating to part-time and junior employees, managerial staff and hours of work.

FULL-TIME NON-MANAGERIAL EMPLOYEES: AVERAGE EARNINGS AND HOURS PAID FOR, INDUSTRIES, NOVEMBER 1987

	Males			*Females*			*Persons*		
	Average weekly earnings ($)	*Average weekly hours paid for*	*Average hourly earnings ($)*	*Average weekly earnings ($)*	*Average weekly hours paid for*	*Average hourly earnings ($)*	*Average weekly earnings ($)*	*Average weekly hours paid for*	*Average hourly earnings ($)*
ADULT EMPLOYEES									
Mining	720.80	42.5	16.96	465.20	39.7	11.71	702.70	42.3	16.61
Manufacturing	467.10	42.3	11.05	345.40	39.1	8.82	436.50	41.5	10.52
Food, beverages and tobacco	450.30	42.3	10.64	363.40	39.6	9.17	428.60	41.6	10.29
Textiles; Clothing and footwear	435.90	45.2	9.65	297.30	38.9	7.65	352.50	41.4	8.52
Paper, printing and publishing	532.00	40.7	13.08	392.40	37.9	10.36	489.30	39.8	12.29
Chemical, petroleum and coal products	511.70	41.4	12.35	370.00	39.0	9.49	465.50	40.6	11.45
Metal products, machinery and equipment									
Basic metal products	531.10	41.7	12.73	409.50	38.5	10.64	521.90	41.5	12.58
Fabricated metal products; Other machinery and equipment	445.40	42.2	10.55	348.10	40.2	8.65	425.00	41.8	10.17
Transport equipment	470.10	41.5	11.34	357.70	39.9	8.97	456.10	41.3	11.05
Total metal products, etc.	*471.10*	*41.9*	*11.24*	*355.90*	*40.0*	*8.90*	*452.70*	*41.6*	*10.83*
Other manufacturing	436.70	43.3	10.08	340.40	38.7	8.80	418.30	42.4	9.86
Electricity, gas and water	510.30	39.5	12.92	394.00	37.4	10.54	499.70	39.3	12.72
Construction	499.30	41.1	12.14	374.50	38.4	9.76	489.50	40.9	11.96
Wholesale trade	440.10	40.2	10.96	380.90	38.6	9.87	423.50	39.7	10.66
Retail trade	376.90	41.1	9.17	320.30	39.6	8.09	353.90	40.5	8.74
Transport and storage	518.40	42.1	12.31	407.90	39.7	10.27	504.00	41.8	12.06
Communication	464.50	38.5	12.08	399.80	38.1	10.50	450.30	38.4	11.73
Finance, property and business services	501.00	39.7	12.62	390.10	38.0	10.27	441.50	38.8	11.39
Public administration and defence	450.70	38.5	11.70	404.90	37.0	10.93	434.90	38.0	11.44
Community services	509.00	38.4	13.26	435.70	37.4	11.66	466.00	37.8	12.33
Recreation, personal and other services	420.50	40.2	10.47	357.90	39.1	9.15	395.10	39.7	9.94
Total all industries	**481.90**	**40.6**	**11.87**	**393.90**	**38.1**	**10.33**	**451.60**	**39.8**	**11.36**
JUNIOR EMPLOYEES									
Mining	403.40	39.0	10.36	257.50	37.9	6.79	365.00	38.7	9.43
Manufacturing	234.10	39.9	5.87	221.80	38.7	5.72	231.40	39.6	5.84
Food, beverages and tobacco	245.70	40.1	6.13	224.50	38.1	5.89	240.30	39.6	6.07
Textiles; Clothing and footwear	251.60	40.6	6.20	214.80	39.0	5.51	227.80	39.6	5.76
Paper, printing and publishing	236.20	38.8	6.09	206.20	38.1	5.42	224.30	38.5	5.82
Chemical, petroleum and coal products	245.60	38.3	6.41	212.00	37.4	5.66	227.20	37.9	6.00
Metal products, machinery and equipment									
Basic metal products	283.70	38.2	7.43	260.20	37.6	6.92	281.40	38.1	7.38
Fabricated metal products; Other machinery and equipment	236.10	40.7	5.80	234.20	39.2	5.97	235.90	40.5	5.82
Transport equipment	242.40	39.7	6.11	264.40	39.7	6.66	243.70	39.7	6.14
Total metal products, etc.	*243.60*	*40.1*	*6.07*	*241.40*	*39.1*	*6.17*	*243.30*	*40.0*	*6.08*
Other manufacturing	208.40	39.6	5.26	231.00	39.8	5.81	211.50	39.6	5.34
Electricity, gas and water	285.90	37.9	7.55	260.90	36.9	7.07	279.90	37.6	7.43
Construction	266.10	39.6	6.72	218.90	38.8	5.64	262.30	39.5	6.63
Wholesale trade	222.30	39.2	5.67	231.20	39.0	5.93	225.10	39.2	5.75
Retail trade	202.10	40.8	4.95	199.80	39.0	5.13	201.00	40.0	5.03
Transport and storage	241.80	38.2	6.34	244.90	39.4	6.22	243.10	38.6	6.29
Communication	303.10	36.8	8.25	244.70	36.8	6.64	285.40	36.8	7.76
Finance, property and business services	248.10	38.7	6.40	234.50	38.4	6.11	238.90	38.5	6.21
Public administration and defence	254.90	38.1	6.70	242.90	37.1	6.54	247.50	37.5	6.60
Community services	249.30	38.1	6.54	255.10	38.2	6.68	253.50	38.1	6.65
Recreation, personal and other services	219.10	40.2	5.45	186.30	39.6	4.71	196.70	39.8	4.94
Total all industries	**235.60**	**39.6**	**5.94**	**224.20**	**38.6**	**5.81**	**230.50**	**39.2**	**5.88**

AVERAGE WEEKLY ORDINARY TIME AND TOTAL EARNINGS OF ADULT FULL-TIME NON-MANAGERIAL EMPLOYEES IN MAJOR ASCO OCCUPATIONAL GROUPS, MAY 1987


MALES


FEMALES

Distribution and composition of earnings

Statistics on the distribution of employees according to weekly earnings and hours, and the composition of weekly earnings and hours for various categories of employees and principal occupations are produced from a survey of employers currently conducted in May each year.

Employers selected are requested to supply relevant details, for a sample of their employees randomly selected by the employers in accordance with instructions supplied by the ABS. Employers with fewer than ten employees are required to complete a questionnaire for every employee.

The information presented in this sub-section relates solely to the earnings data collected in the May 1987 survey. The table below sets out the composition of average weekly earnings of employees by State and Territory.

COMPOSITION OF AVERAGE WEEKLY EARNINGS: ALL EMPLOYEES, STATES AND TERRITORIES, MAY 1987

($)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
					MALES				
Overtime	32.40	33.00	25.50	28.70	35.20	25.60	36.40	23.40	31.30
Ordinary time—									
Award or agreed base rate of pay	407.00	400.00	399.50	383.00	424.20	397.50	452.80	499.80	406.00
Payment by measured result *(a)*	7.40	2.00	6.60	2.10	4.50	*7.40	*1.70	*0.60	4.90
Over-award and other pay	7.90	11.20	8.10	6.90	8.00	5.10	*3.90	*1.10	8.50
Total	**454.60**	**446.20**	**439.60**	**420.70**	**471.90**	**435.50**	**494.90**	**524.90**	**450.60**
					FEMALES				
Overtime	6.30	7.80	3.40	4.20	7.10	5.80	*11.50	7.80	6.30
Ordinary time—									
Award or agreed base rate of pay	293.10	288.60	267.60	269.60	278.40	257.60	350.70	337.30	285.70
Payment by measured result *(a)*	0.70	1.10	*1.10	*0.60	*0.30	*0.30	*0.60	—	0.80
Over-award and other pay	4.10	4.80	3.10	2.40	2.80	*0.60	*0.80	0.50	3.70
Total	**304.10**	**302.20**	**275.20**	**276.80**	**288.70**	**264.20**	**363.60**	**345.60**	**296.50**
					PERSONS				
Overtime	21.40	22.00	16.00	18.20	22.60	16.80	25.50	16.30	20.50
Ordinary time—									
Award or agreed base rate of pay	358.70	351.40	343.20	334.60	359.00	335.10	407.90	426.70	354.10
Payment by measured result *(a)*	4.50	1.60	4.20	1.50	2.60	*4.20	*1.30	*0.30	3.10
Over-award and other pay	6.30	8.40	6.00	5.00	5.70	3.10	*2.50	0.80	6.40
Total	**390.90**	**383.40**	**369.50**	**359.30**	**389.90**	**359.20**	**437.20**	**444.10**	**384.10**

(a) Earnings which vary according to measured performance (e.g. piecework, production and task bonuses or commission).

Average weekly ordinary time earnings can vary across occupations, and this is shown in the accompanying charts. Occupation is classified to the Australian Standard Classification of Occupations (ASCO). Details of ASCO can be found in *ASCO, First Edition Statistical Classification* (1222.0) which was released in September 1986. An *Information Paper: ASCO—Australian Standard Classification of Occupations: Introduction to ASCO Publications—First Edition* (1221.0) was also released at that time.

In 1987, males in the 'Professionals' group had the highest average weekly earnings while those in 'Labourers and related workers' had the lowest. For females, the occupation group with the highest average weekly earnings was 'Professionals' and the lowest was 'Plant and machine operators, and drivers'.

Non-Wage Benefits

The previous section concentrated on monetary remuneration for employment. In this section, attention is given to a range of benefits other than wages, salaries and supplements that may arise from employment. Benefits covered are employer-provided concessions or allowances such as holiday costs, low interest finance, goods and services, housing, electricity, telephone, transport, medical, union dues, club fees, entertainment, shares, study leave, superannuation or children's education expenses.

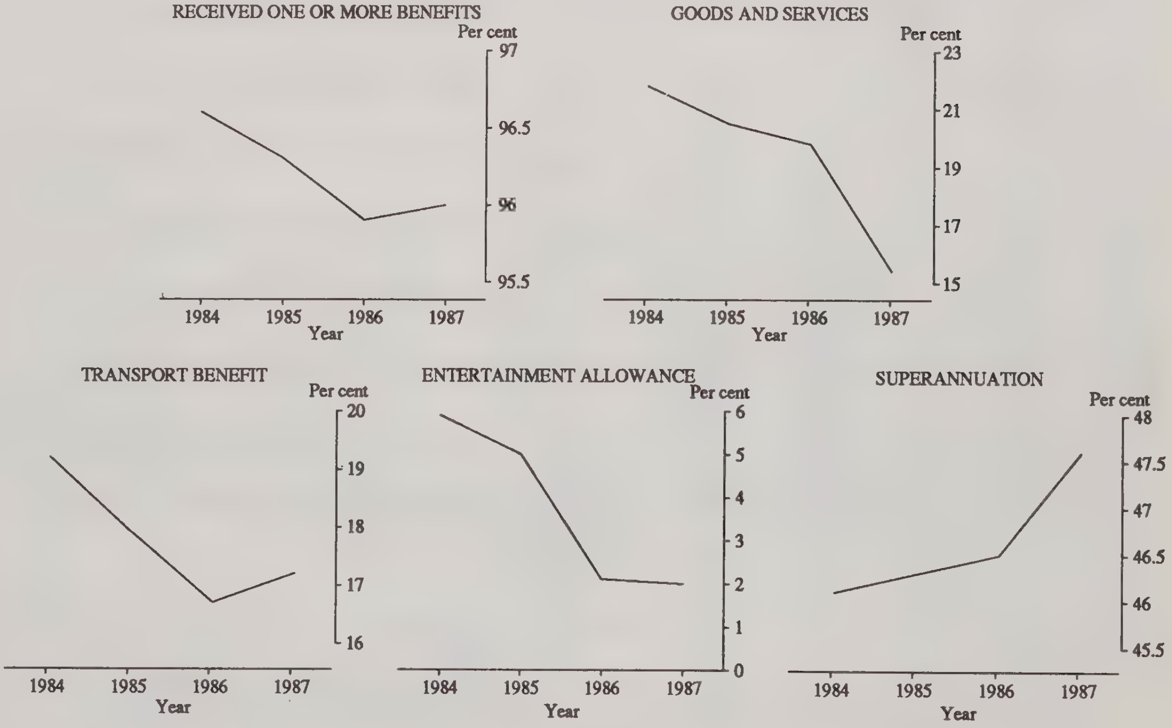
Other than leave provisions, which were available to more than two-thirds of employees, superannuation was the most regularly received benefit. The incidence of this benefit was considerably proportionally higher for males than for females in every occupation group.

The survey also showed that employees at the highest levels of earnings were more likely to receive non-wage benefits. The exceptions were goods and services and annual and sick leave. Children's education expenses were rarely provided. There was also an increased likelihood of receiving benefits as employees' hours of work increased.

ALL EMPLOYEES: TYPE OF BENEFIT RECEIVED AND WEEKLY EARNINGS IN MAIN JOB AUGUST 1987

	Weekly earnings in main job (dollars)								
	Under 120	*120 and under 200*	*200 and under 280*	*280 and under 360*	*360 and under 440*	*440 and under 520*	*520 and under 600*	*600 and over*	*Total*
Total employees ('000)	**533.4**	**551.7**	**816.5**	**1,262.2**	**973.1**	**631.1**	**449.0**	**600.6**	**5,817.6**
PERCENTAGE OF EMPLOYEES RECEIVING BENEFIT									
Type of benefit—									
Holiday expenses	*0.3	1.3	2.6	3.0	4.0	5.8	6.2	6.5	3.6
Low-interest finance	*0.1	0.9	2.0	2.4	3.5	4.4	4.2	6.9	3.0
Goods and services	12.1	18.8	17.9	17.0	15.0	12.6	10.2	13.0	15.1
Housing	2.0	2.1	2.8	1.9	3.2	4.0	4.6	7.5	3.3
Electricity	1.8	1.5	2.1	1.4	1.3	1.9	2.1	3.4	1.9
Telephone	3.0	3.3	4.3	4.5	7.5	11.2	13.1	22.1	7.9
Transport	4.2	6.3	7.4	9.9	16.4	21.4	23.0	36.2	14.7
Medical	*0.5	1.6	1.9	2.3	2.8	4.3	4.7	8.2	3.1
Union dues	*0.4	0.7	0.9	1.1	1.9	2.3	3.5	7.3	2.1
Club fees	*0.4	*0.5	0.4	0.5	0.8	1.2	2.2	5.5	1.3
Entertainment allowance	*0.2	*0.6	*0.4	0.6	1.3	2.3	3.1	7.1	1.7
Shares	0.7	0.9	1.0	1.5	2.4	2.5	2.8	6.2	2.1
Study leave	1.3	1.6	1.4	1.5	2.1	3.0	3.6	3.4	2.1
Superannuation	2.2	10.9	23.9	37.6	49.6	58.9	67.2	71.0	39.9
Child care/education expenses	*0.2	*0.1	*0.2	*0.1	*0.3	*0.2	*0.5	*0.4	0.2
Sick leave	15.2	58.0	78.3	89.7	92.7	93.3	95.1	92.3	79.8
Annual leave	14.9	58.5	79.3	90.4	93.3	93.7	95.4	93.2	80.4
Long-service leave	11.3	38.6	56.8	71.5	79.7	83.9	86.4	83.3	65.9

FULL-TIME EMPLOYEES: SELECTED BENEFITS RECEIVED, AUGUST 1984 TO 1987



ALL EMPLOYEES: TYPE OF BENEFIT RECEIVED AND HOURS WORKED IN MAIN JOB AUGUST 1987

	Hours worked in main job—						
	Under 20	*20–29*	*30–34*	*35–39*	*40*	*41 and over*	*Total*
Total employees ('000)	**1,000.3**	**500.1**	**530.2**	**1,180.8**	**1,271.5**	**1,334.6**	**5,817.6**
	PERCENTAGE OF EMPLOYEES RECEIVING BENEFIT						
Type of benefit—							
Holiday expenses	2.1	3.1	4.7	3.2	4.2	4.4	3.6
Low-interest finance	1.2	1.9	4.3	3.0	3.6	3.6	3.0
Goods and services	13.3	15.5	14.2	13.5	15.0	18.2	15.1
Housing	1.7	1.6	2.8	2.0	3.7	6.1	3.3
Electricity	1.0	1.3	1.6	1.0	1.9	3.5	1.9
Telephone	3.9	5.4	7.0	5.6	6.9	15.3	7.9
Transport	6.9	8.9	11.4	10.2	15.6	27.3	14.7
Medical	1.5	1.9	3.7	3.3	3.4	4.0	3.1
Union dues	0.8	0.9	1.2	1.3	1.8	4.6	2.1
Club fees	0.5	*0.6	*0.6	0.9	1.2	2.7	1.3
Entertainment allowance	0.5	*0.6	0.8	0.8	1.6	4.1	1.7
Shares	1.2	1.3	1.5	1.5	2.0	4.1	2.1
Study leave	1.5	1.8	2.5	2.4	1.9	2.5	2.1
Superannuation	19.6	27.8	44.2	50.5	40.0	48.6	39.9
Child care/education expenses	*0.2	*0.1	*0.0	*0.2	*0.1	0.4	0.2
Sick leave	40.7	62.0	85.7	93.7	92.5	89.2	79.8
Annual leave	40.6	62.4	86.3	94.2	93.1	90.4	80.4
Long-service leave	36.0	50.9	74.1	81.3	72.1	71.0	65.9

Hours of Work and Work Patterns

It is widely recognised that statistics of hours of work and patterns of work are essential for the study of economic activity, productivity, working conditions, living standards and the quality of life of working people. In this section, a range of data has been brought together on work patterns and hours of work.

EMPLOYED PERSONS: AGGREGATE AND AVERAGE WEEKLY HOURS WORKED (a)

		Females			
	Males	*Married*	*Not married*	*Total*	*Persons*
AUGUST 1986					
Aggregate weekly hours worked (million)	166.8	46.3	33.1	79.4	246.2
By full-time workers	162.5	34.0	29.6	63.6	226.1
By part-time workers	4.3	12.3	3.5	15.9	20.1
Average weekly hours worked	39.9	28.1	31.4	29.4	35.8
By full-time workers	41.6	38.6	37.0	37.8	40.5
By part-time workers	15.4	16.0	13.9	15.5	15.5
By wage and salary earners	38.4	28.0	31.4	29.5	34.7
By other than wage and salary earners *(b)*	46.5	28.4	30.5	28.7	40.8
Average weekly hours worked by persons who worked one hour or more in the reference week	42.0	29.5	33.0	30.9	37.6
By full-time workers	43.8	40.6	38.9	39.8	42.6
By part-time workers	16.3	16.8	14.6	16.3	16.3
AUGUST 1987					
Aggregate weekly hours worked (million)	169.8	48.1	33.9	81.9	251.7
By full-time workers	165.0	35.0	29.8	64.8	229.7
By part-time workers	4.8	13.1	4.1	17.2	22.0
Average weekly hours worked	39.8	28.0	31.0	29.2	35.6
By full-time workers	41.8	38.5	37.2	37.9	40.6
By part-time workers	15.3	16.2	14.0	15.6	15.5
By wage and salary earners	38.3	27.9	31.0	29.3	34.6
By other than wage and salary earners *(b)*	46.6	28.2	30.4	28.5	40.8
Average weekly hours worked by persons who worked one hour or more in the reference week	41.9	29.5	32.5	30.7	37.4
By full-time workers	43.9	40.7	39.2	40.0	42.7
By part-time workers	16.2	17.0	14.6	16.4	16.3
AUGUST 1988					
Aggregate weekly hours worked (million)	177.1	51.2	35.7	86.9	264.0
By full-time workers	172.5	37.1	31.5	68.6	241.1
By part-time workers	4.5	14.1	4.2	18.3	22.8
Average weekly hours worked	40.6	28.2	31.1	29.3	36.0
By full-time workers	42.5	38.8	37.6	38.2	41.2
By part-time workers	15.0	16.4	13.6	15.6	15.5
By wage and salary earners	39.1	28.2	31.2	29.5	35.1
By other than wage and salary earners *(b)*	47.2	27.9	29.0	28.0	40.9
Average weekly hours worked by persons who worked one hour or more in the reference week	42.8	29.8	32.7	30.9	38.0
By full-time workers	44.8	41.1	39.6	40.4	43.5
By part-time workers	16.0	17.3	14.2	16.5	16.4

(a) The figures refer to actual hours worked not hours paid for. *(b)* Comprises employers, self-employed persons and unpaid family helpers who worked one hour or more.

The previous table sets out aggregate and average hours worked by employed persons who are either working full-time or part-time. The following table provides information on average hours worked by employed persons by the industry of their employment.

EMPLOYED PERSONS: AVERAGE WEEKLY HOURS WORKED (a) BY INDUSTRY AUGUST 1988

Industry	*Males*	*Females*		*Persons*
		Married	*Total*	
Agriculture, forestry, fishing and hunting	47.9	26.6	27.3	42.0
Agriculture and services to agriculture	48.4	27.1	27.8	42.4
Forestry and logging, fishing and hunting	41.6	16.0	15.2	36.6
Mining	41.5	*34.3	37.2	41.2
Manufacturing	40.4	32.2	33.0	38.5
Food, beverages and tobacco	39.5	32.5	32.6	37.5
Metal products	41.5	30.8	31.9	40.4
Other manufacturing	40.3	32.2	33.1	38.2
Electricity, gas and water	33.9	*27.1	30.0	33.5
Construction	40.4	18.8	21.1	38.0
Wholesale and retail trade	41.2	28.7	27.5	35.1
Wholesale trade	41.8	28.1	31.1	38.6
Retail trade	40.8	28.9	26.5	33.6
Transport and storage	40.3	27.0	30.2	38.3
Communication	34.4	30.0	29.8	33.2
Finance, property and business services	42.0	28.2	31.3	36.7
Public administration and defence	36.2	29.5	31.4	34.4
Community services	39.2	27.5	29.5	32.9
Recreation, personal and other services	38.9	27.5	27.6	32.4
All industries	**40.6**	**28.2**	**29.3**	**36.0**

(a) The estimates refer to actual hours worked, not hours paid for.

Statistics on overtime are produced from a survey conducted each quarter. Estimates prior to November 1983 are not strictly comparable to later estimates. Background information about the job vacancies series is provided in *Information Paper: New Statistical Series: Employment, Average Weekly Earnings, Job Vacancies and Overtime* (6256.0).

OVERTIME BY INDUSTRY

Industry	*May 1983(a)*	*November 1983*		*May 1984(b)*	*May 1985(b)*	*May 1986(b)*	*May 1987(b)*	*May 1988(b)*
		old(a)	*new(b)*					
AVERAGE WEEKLY OVERTIME HOURS PER EMPLOYEE WORKING OVERTIME								
Mining	8.4	9.0	8.9	8.7	10.5	9.2	9.4	11.1
Manufacturing	7.5	8.0	7.8	7.8	7.7	7.8	7.9	8.3
Food, beverages and tobacco	6.7	7.7	6.9	6.0	6.3	7.3	6.8	7.3
Textiles; Clothing and footwear	10.5	10.1	8.6	8.6	8.9	7.9	8.4	7.1
Paper, printing, etc.	6.5	7.4	6.9	6.2	6.0	6.6	7.4	7.5
Chemical, petroleum and coal products	7.4	6.9	7.6	10.3	9.0	8.7	8.6	7.8
Basic metal products	7.3	8.5	9.0	10.7	9.2	9.3	9.9	10.2
Fabricated metal products; Other machinery, etc.	7.7	7.5	8.9	7.7	7.6	7.5	7.8	9.0
Transport equipment	7.3	8.6	8.1	7.8	9.3	8.4	8.9	8.9
Other manufacturing	7.5	7.9	7.0	7.8	7.1	7.9	7.6	8.2
Electricity, gas and water	7.9	7.4	6.9	7.2	7.3	7.0	7.2	7.6
Construction	8.2	7.6	7.8	6.9	7.3	7.0	8.0	8.4
Wholesale trade	6.3	6.2	5.9	6.0	6.4	6.6	6.8	6.9
Retail trade	3.9	4.0	3.9	3.7	3.5	3.9	3.7	4.4
Transport and storage; Communication	7.4	7.2	7.0	7.3	7.6	7.9	7.3	9.3
Public administration and defence	6.8	7.4	5.6	5.6	5.0	5.3	5.0	5.7
Community services	6.8	7.4	5.6	5.6	6.3	6.0	5.9	5.8
Other	5.2	5.1	5.5	6.2	6.1	5.2	5.4	5.7
All industries	**6.9**	**7.1**	**6.7**	**6.7**	**6.8**	**6.8**	**6.8**	**7.3**

For footnotes *see* over.

OVERTIME BY INDUSTRY—*continued*

		November 1983						
Industry	*May 1983(a)*	*old(a)*	*new(b)*	*May 1984(b)*	*May 1985(b)*	*May 1986(b)*	*May 1987(b)*	*May 1988(b)*
PERCENTAGE OF EMPLOYEES IN THE SURVEY WORKING OVERTIME								
Mining	45.3	45.6	42.4	46.7	42.6	46.2	44.1	44.0
Manufacturing	23.7	29.9	28.1	28.0	31.5	31.5	33.6	32.6
Food, beverages and tobacco	30.8	38.2	35.4	34.2	37.3	38.4	40.4	39.2
Textiles; Clothing and footwear	21.2	26.8	27.0	24.6	24.7	20.3	24.8	26.6
Paper, printing, etc.	20.7	25.1	22.6	17.9	19.7	19.7	24.7	24.9
Chemical, petroleum and coal products	23.4	25.9	26.3	22.2	22.0	24.0	29.3	29.3
Basic metal products	29.3	36.0	30.6	38.0	37.7	41.8	45.1	43.0
Fabricated metal products; Other machinery, etc.	22.9	27.6	26.2	26.8	31.1	33.9	35.5	30.3
Transport equipment	14.3	22.6	24.5	30.7	37.6	32.5	32.7	35.7
Other manufacturing	24.2	32.1	28.3	27.8	33.7	33.3	35.5	33.5
Electricity, gas and water	22.0	21.7	21.7	23.0	24.6	23.8	21.0	23.3
Construction	23.4	24.4	20.0	17.4	21.1	25.4	21.5	26.4
Wholesale trade	17.0	17.7	18.3	15.5	16.7	15.3	15.2	19.3
Retail trade	17.4	19.3	14.5	15.5	19.3	17.8	16.8	17.9
Transport and storage; Communication	27.6	30.7	26.9	27.0	31.9	31.5	28.6	31.2
Public administration and defence	7.7	7.2	7.7	8.3	14.8	14.0	13.7	14.7
Community services	7.7	7.2	7.7	8.3	5.0	6.2	7.0	6.6
Other	11.8	10.9	8.2	7.4	9.9	9.5	10.0	12.1
All industries	**17.4**	**19.0**	**16.3**	**16.5**	**18.2**	**18.1**	**18.1**	**19.0**

(a) Result from payroll tax based survey. *(b)* Result of sample survey of employers.

Labour Costs

Major labour costs statistics are produced from an annual survey of employers. This survey was conducted for the second time in 1987 and collected costs incurred by private sector employers, for gross wages and salaries; superannuation contributions; workers' compensation; payroll tax; and fringe benefits tax for the year ended 30 June 1987.

MAJOR LABOUR COSTS: PRIVATE SECTOR, INDUSTRIES, 1986–87

Type of cost	*Mining*	*Manufacturing*	*Construction*	*Wholesale and retail trade*	*Transport and storage; Communication*	*Finance, property and business services*	*Community services; Electricity, gas and water*	*Recreation, personal and other services*	*Total all industries*
COSTS ($ million)									
Gross wages and salaries	2,780	21,164	4,371	16,394	3,538	13,031	7,132	3,607	72,017
Other labour costs—									
Payroll tax	153	1,040	136	569	147	596	99	110	2,850
Workers' compensation	110	881	220	388	133	135	107	81	2,056
Superannuation	123	676	163	488	125	633	242	*56	2,508
Fringe benefits tax	32	87	*29	103	12	180	14	18	474
Major labour costs	**3,198**	**23,848**	**4,920**	**17,942**	**3,956**	**14,575**	**7,595**	**3,871**	**79,905**

MAJOR LABOUR COSTS: PRIVATE SECTOR, INDUSTRIES, 1986–87—*continued*

Type of cost	*Mining*	*Manufacturing*	*Construction*	*Wholesale and retail trade*	*Transport and storage; Communication*	*Finance, property and business services*	*Community services; Electricity, gas and water*	*Recreation, personal and other services*	*Total all industries*
COSTS PER EMPLOYEE									
—dollars—									
Gross wages and salaries	34,414	20,812	22,114	15,556	22,999	21,204	16,782	11,708	18,702
Other labour costs—									
Payroll tax	1,891	1,023	689	540	958	971	233	356	740
Workers' compensation	1,358	867	1,115	369	865	220	253	262	534
Superannuation	1,527	665	826	463	815	1,031	569	*182	651
Fringe benefits tax	399	85	*146	98	80	292	34	57	123
Major labour costs	**39,589**	**23,451**	**24,891**	**17,025**	**25,717**	**23,717**	**17,871**	**12,564**	**20,751**
—per cent—									
Superannuation— Employees covered	71.0	45.1	40.7	23.4	36.4	35.3	19.3	10.5	31.9
—dollars—									
Cost per employee covered	2,150	1,474	2,031	1,984	2,243	2,924	2,957	1,730	2,040
COSTS AS A PERCENTAGE OF MAJOR LABOUR COSTS									
Gross wages and salaries	86.9	88.8	88.9	91.4	89.4	89.4	93.9	93.2	90.1
Other labour costs—									
Payroll tax	4.8	4.4	2.8	3.2	3.7	4.1	1.3	2.8	3.6
Workers' compensation	3.4	3.7	4.5	2.2	3.4	0.9	1.4	2.1	2.6
Superannuation	3.9	2.8	3.3	2.7	3.2	4.4	3.2	*1.5	3.1
Fringe benefits tax	1.0	0.4	*0.6	0.6	0.3	1.2	0.2	0.5	0.6
Major labour costs	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
COSTS AS A PERCENTAGE OF GROSS WAGES AND SALARIES									
Payroll tax	5.5	4.9	3.1	3.5	4.2	4.6	1.4	3.0	4.0
Workers' compensation	4.0	4.2	5.0	2.4	3.8	1.0	1.5	2.2	2.9
Superannuation	4.4	3.2	3.7	3.0	3.5	4.9	3.4	*1.6	3.5
Fringe benefits tax	1.2	0.4	*0.7	0.6	0.4	1.4	0.2	0.5	0.7
Other labour costs	**15.0**	**12.7**	**12.6**	**9.4**	**11.8**	**11.9**	**6.5**	**7.3**	**11.0**

Industrial Disputes

This section presents statistics of industrial disputes involving the loss of ten working days or more at the establishments where stoppages occurred. Industrial disputes data are obtained from employers (private and government), trade unions, and from reports of government authorities.

INDUSTRIAL DISPUTES: AUSTRALIA

Year	*Number of disputes*		*Employees involved ('000)*		*Working days lost ('000)*
	Commenced in year	*Total (a)*	*Newly involved (b)*	*Total (a)*	
1982	2,045	2,060	678.4	706.1	1,980.4
1983	1,779	1,787	452.8	470.2	1,641.4
1984	1,958	1,965	551.1	560.3	1,307.4
1985	r1,876	r1,895	552.6	570.5	1,256.2
1986	r1,747	r1,756	673.9	691.7	1,390.7
1987	1,512	1,517	593.4	608.8	1,311.9

(a) Refers to all disputes in progress during the year. *(b)* Comprises workers involved in disputes which commenced during the year and additional workers involved in disputes which continued from the previous year.

An industrial dispute is a withdrawal from work by a group of employees or a refusal by an employer (or a number of employers) to permit some or all employees to work, each withdrawal or refusal being made to enforce a demand, resist a demand, or to express a grievance. Employees involved include those directly and indirectly involved in disputes, with the indirectly involved being only those who ceased work at establishments where stoppages have occurred but who are not party to the disputes. Working days lost refer to working days lost by workers directly or indirectly involved in disputes.

The annual figures contained in these tables relate to disputes in *progress*.

INDUSTRIAL DISPUTES: WORKING DAYS LOST BY INDUSTRY ('000)

	Mining		*Manufacturing*					
Year	*Coal*	*Other*	*Metal products, machinery and equipment*	*Other*	*Construction*	*Transport and storage; Communication*	*Other industries (a)*	*All industries*
1982	525.8	157.1	241.8	333.0	231.1	296.2	373.1	2,158.0
1983	122.8	194.7	157.6	120.7	337.2	213.6	494.8	1,641.4
1984	131.1	193.2	144.8	249.3	116.3	150.6	322.1	1,307.4
1985	233.8	106.4	107.3	189.4	175.3	180.4	263.7	1,256.2
1986	362.0	179.4	187.4	205.3	117.7	57.6	281.4	1,390.7
1987	291.8	55.7	199.6	195.5	194.5	92.5	282.3	1,311.9

(a) Includes: agriculture, etc.; electricity, etc.; wholesale and retail trade; finance, etc.; public administration, etc.; community services; recreation and personal services.

INDUSTRIAL DISPUTES: WORKING DAYS LOST BY STATE ('000)

Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust. (a)*
1982	961.6	368.0	509.8	66.6	162.4	61.5	2,158.0
1983	801.2	257.7	135.0	87.7	270.6	67.8	1,641.4
1984	660.6	187.5	236.5	25.5	119.2	50.5	1,307.4
1985	398.7	355.9	336.2	22.5	92.9	20.7	1,256.2
1986	598.8	381.8	173.4	46.2	143.1	29.2	1,390.7
1987	744.8	281.4	73.7	44.6	115.3	28.0	1,311.9

(a) Includes the Northern Territory and the Australian Capital Territory.

The following table shows the number of working days lost per thousand employees in the years 1982 to 1987. Prior to 1984, the figures were calculated using estimates from the Labour Force Survey. As from 1984, the basis for calculating working days lost per thousand employees changed to include estimates of employees from the Survey of Employment and Earnings. These estimates are combined with estimates of the number of employees in agriculture and in private households obtained from the Labour Force Survey.

INDUSTRIAL DISPUTES: WORKING DAYS LOST PER THOUSAND EMPLOYEES BY INDUSTRY

	Mining		Manufacturing					
Year	*Coal*	*Other*	*Metal products, machinery and equipment*	*Other*	*Construction*	*Transport and storage; Communication*	*Other industries*	*All industries*
1982 *(a)*	9,698	2,686	471	505	768	r672	84	358
1983 *(a)*	3,223	3,375	353	186	1,269	r485	42	249
1984	3,913	3,745	343	416	r503	372	91	248
1985	r6,892	r1,928	r256	312	r666	r430	71	228
1986	r10,741	3,328	445	328	458	135	72	242
1987	8,920	1,072	479	305	743	217	70	223

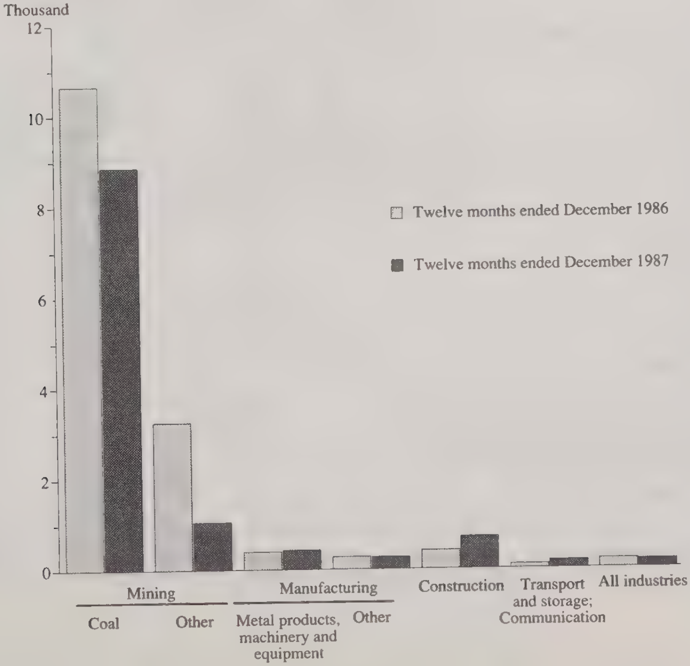
(a) Excludes agriculture, etc. and private households employing staff.

INDUSTRIAL DISPUTES: WORKING DAYS LOST PER THOUSAND EMPLOYEES BY STATE

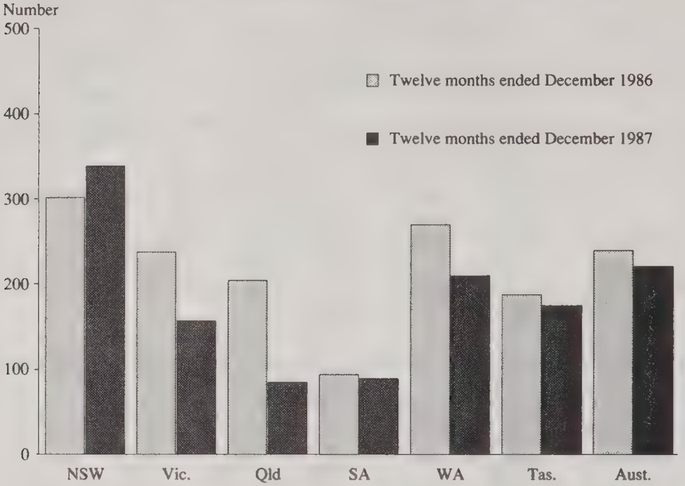
Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust. (b)*
1982 *(a)*	381	258	660	101	348	431	358
1983 *(a)*	287	163	176	115	577	478	249
1984	357	132	302	r56	256	350	248
1985	209	236	411	r48	187	138	228
1986	304	240	r208	r95	272	190	242
1987	366	172	87	91	212	177	223

(a) Excludes agriculture, etc. and private households employing staff. *(b)* Includes the Northern Territory and the Australian Capital Territory.

INDUSTRIAL DISPUTES: BY INDUSTRY, AUSTRALIA, WORKING DAYS LOST PER THOUSAND EMPLOYEES



INDUSTRIAL DISPUTES: STATES AND AUSTRALIA, WORKING DAYS LOST PER THOUSAND EMPLOYEES



INDUSTRIAL DISPUTES: DURATION, CAUSE AND METHOD OF SETTLEMENT, WORKING DAYS LOST (a)

('000)

	1985	*r 1986*	*1987*
DURATION			
Up to 1 day	168.7	441.00	350.1
Over 1 to 2 days	213.8	65.7	180.9
Over 2 to less than 5 days	393.5	98.9	160.1
5 to less than 10 days	211.8	219.4	261.5
10 to less than 20 days	260.0	398.4	116.3
20 days and over	56.6	142.8	140.7
Total	**1,304.3**	**1,366.2**	**1,209.5**
CAUSE			
Wages	301.3	546.3	519.7
Hours of work	49.5	13.2	20.3
Managerial policy	321.2	486.0	330.9
Physical working conditions	193.6	93.7	88.7
Trade unionism	216.9	45.7	36.8
Other *(b)*	221.9	181.3	213.1
Total	**1,304.3**	**1,366.2**	**1,209.5**
METHOD OF SETTLEMENT *(c)*			
Negotiation	193.6	165.1	211.4
State legislation—			
Under State conciliation, etc., legislation	140.6	110.2	171.9
Intervention, etc., of State Government officials			
Federal and joint Federal State legislation	190.8	576.8	297.2
Resumption without negotiation	736.4	467.8	509.2
Other methods*(d)*	42.9	46.3	19.8
Total	**1,304.3**	**1,366.2**	**1,209.5**

(a) Refers to disputes which ended in the year. *(b)* Includes 'Leave, pensions, compensation provisions etc'. *(c)* Method directly responsible for ending the stoppage of work. *(d)* Includes 'Mediation', 'Filling the places of workers on strike or locked out' and 'Closing down the establishment permanently'.

Trade Unions

For the purpose of the following statistics a trade union is defined as an organisation, consisting predominantly of employees, whose principal activities include the negotiation of rates of pay and conditions of employment for its members. Returns showing membership by State and Territory each year are obtained for all trade unions and employee organisations.

TRADE UNIONS: NUMBER, MEMBERSHIP AND PROPORTION OF TOTAL EMPLOYEES

	Number of separate unions (a)	*Number of members ('000)*			*Proportion of total employees (per cent)*		
		Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
31 December—							
1983	319	2,007.2	978.0	2,985.2	61	47	56
1984	329	2,041.2	987.3	3,028.5	61	45	55
30 June—							
1985 *(b)*	323	2,121.6	1,032.6	3,154.2	65	46	57
1986	326	2,126.5	1,059.7	3,186.2	63	44	55
1987	316	2,136.0	1,104.2	3,240.1	63	44	55
1988	308	2,090.7	1,122.3	3,213.0	60	43	53

(a) Without interstate duplication. *(b)* Unions reported financial and total membership separately for the first time as at 30 June 1985.

In the table above the approximate percentages of wage and salary earners in employment (i.e. employees) who were members of trade unions are shown. From 30 June 1985, the proportions of employees have been calculated from estimates of employees from the Survey of Employment and Earnings, as published quarterly in *Employed Wage and Salary Earners, Australia* (6248.0). These estimates have been adjusted by adding estimates of employees in agriculture, forestry, fishing and hunting and in private households employing staff, from the Labour Force Survey. For statistics prior to 30 June 1985, all estimates of employees were taken from the *Labour Force, Australia* (6203.0). The percentages shown should be regarded as giving only a broad indication of the extent of union membership among employees, because they are based on estimates of employed wage and salary earners. The degree of unemployment of reported union members will affect the percentages for a particular year and comparison over time. Such comparisons may also be affected by duplication in the count of members due to persons holding membership in more than one union, and by union perceptions and practices in regard to membership (e.g. membership may be restricted to 'financial' members only) which can change over time.

TRADE UNIONS: CLASSIFICATION ACCORDING TO NUMBER OF MEMBERS
30 JUNE 1988

	Separate unions		*Members*	
Size of union (number of members)	*Number*	*Proportion of total (per cent)*	*Number ('000)*	*Proportion of total (per cent)*
Under 100	37	12.0	1.7	0.1
100 and under 250	32	10.4	5.3	0.2
250 and under 500	31	10.1	11.4	0.4
500 and under 1,000	43	14.0	30.6	1.0
1,000 and under 2,000	45	14.6	65.2	2.0
2,000 and under 3,000	11	3.6	27.8	0.9
3,000 and under 5,000	27	8.8	107.1	3.3
5,000 and under 10,000	18	5.8	131.6	4.1
10,000 and under 20,000	19	6.2	265.0	8.2
20,000 and under 30,000	11	3.6	261.1	8.1
30,000 and under 40,000	8	2.6	277.1	8.6
40,000 and under 50,000	8	2.6	353.9	11.0
50,000 and under 80,000	9	2.9	570.5	17.8
80,000 and over	9	2.9	1,104.8	34.4
Total	**308**	**100.0**	**3,213.0**	**100.0**

In addition, a Supplementary Survey was conducted in August 1988 to provide information on the characteristics of trade union members such as their age, industry, and occupation.

Employment and Training Programs

In order to ensure that its programs were appropriate to the current needs of the labour market, in 1983 the Commonwealth Government established the Committee of Inquiry into Labour Market Programs. As a result of that Committee's recommendations, the Government has restructured and rationalised its labour force programs. The resulting mix of programs is designed to promote work experience and training. The principal aims of the labour force programs are to maintain a supply of trained persons to meet the needs of industry and to assist disadvantaged groups in the labour market. Labour force programs operating in 1988 are detailed as follows.

Australian Traineeship System—ATS

The ATS was introduced in August 1985 to bring structured training arrangements to the non-trades occupations. It is particularly directed towards young people who do not go on to higher education, technical or trade training, primarily 16–18 year olds, with preference given to those who do not have Year 12 qualifications. Traineeships are of at least 12 months duration and consist of a structured combination of on- and off-the-job training. Training includes a minimum of 13 weeks off-the-job training, usually provided by a TAFE.

The Commonwealth is responsible for the overall development and implementation of the ATS in close consultation with State and Territory governments, State Training Authorities, TAFEs, employers, unions and young people. The Commonwealth provides:

- an on-the-job training fee of $1,000 per trainee to employers, $2,000 in the case of trainees assessed as disadvantaged;
- an off-the-job training fee of $1,800 per trainee which is paid to TAFE and $2,000 in the case of other approved off-the-job training providers;
- living away from home allowances to trainees who have to move in order to take up a traineeship.

The trainee is paid a trainee wage for the duration of the traineeship which is set with reference to relevant junior rates for the time spent on the job. The trainee wage cannot be less than $101.55 per week and is adjusted in accordance with National Wage Case decisions. Since the inception of the system almost 18,300 young people have commenced a traineeship in a wide range of industries and occupations. Of these almost 10,200 trainees commenced in 1987–88.

Industry training service

In addition to specific schemes directed at the training of individuals, the Government also provides aid to assist industry to develop and improve its own training programs through the National Trainer Training Service (NTTS) and Industry Training Committees (ITCs).

The NTTS provides a range of public training courses and consultancy services designed to improve the utility of training in industry and the competence of those who provide it. The NTTS operates training centres in all capital cities. ITCs are industry based autonomous committees with representatives from employers, employees and the Government. Their role is to promote and develop systematic training and to provide advice on training issues in their industry.

Commonwealth Rebate for Apprentice Full-time Training—CRAFT

Assistance under CRAFT takes a number of forms. The Apprenticeship Training Incentive was introduced on 1 January 1988 to replace the Technical Education Rebate. The incentive is two standard grants to employers, one at the start of the apprenticeship and one at completion. The *Apprentice Training Incentive* aims to encourage employers to maintain a high level of apprentice recruitment and, at the same time, provide incentives to improve the quality of training. In addition, employers who recruit and indenture an out-of-trade apprentice may be eligible for a re-establishment grant.

The *Technical Education Rebate*, which offsets costs associated with the release of apprentices to trade classes, will continue to be available to employers in respect of apprentices who commenced prior to 1 January 1988.

Rebates are payable to employers who release their apprentices to attend approved full-time, off-the-job training courses at their own or other industry training centres.

A *Pre-Vocational Graduate Employment Rebate* is payable to employers who engage an apprentice who has completed an approved trade based pre-employment course which results in exemption from at least one stage of technical education and a reduction of at least 6 months in the normal period of apprenticeship.

A *Living Away From Home Allowance* is also provided to apprentices who need to move away from home to commence or maintain an apprenticeship. The allowance is available to first year and second year apprentices.

Special Apprentice Training

Special Apprentice Training encompasses special apprenticeship support programs which are designed to complement traditional apprentice training and reduce wastage from apprenticeship.

Under the *Group Training Scheme*, joint Commonwealth–State financial assistance is provided to a central body, such as an employer organisation or a training company formed by local government or a regional organisation. Apprentices/trainees (under the Australian Traineeship System) are then indentured to or employed by these organisations and then leased on a rotation basis to participating employers.

The *Special Trade Training Program* is directed at developing new approaches to complement traditional apprentice training. The major component of this program is the provision of assistance to State and Territory governments to provide additional standard trade-based pre-employment courses and designated preparatory course places for women.

The *Special Assistance Program* is aimed at reducing the incidence of apprentice wastage. Out-of-trade apprentices may be eligible for a training allowance to enable the completion of the basic trade course and/or to undertake an approved course of off-the-job training.

The *Disabled Apprentice Wage Subsidy Program* provides a subsidy to employers who indenture a disabled person. Further assistance is available to employers to assist with any necessary modifications to the workplace.

Adult Training Program—ATP

The ATP provides short-term vocational training opportunities for people aged 21 and over who have been unemployed for at least 6 out of the past 9 months, or who are otherwise especially disadvantaged (e.g. disabled, sole parents, migrants with English language difficulties). The courses are developed at the local level in conjunction with TAFE and other training providers, taking into account the needs of the participants and the skill requirements of local labour markets.

TAFE has a major role in the delivery of courses. In 1986–87, courses were run in a wide range of areas, including office skills, tourism and hospitality, health care work, computer programming, industrial machining, welding, warehousing, and various rural occupations.

The program includes provision of training assistance targeted towards:

- sole parents and widows whose eligibility for benefit/pension is changed by new provisions relating to age of youngest child;
- the provision of bridging and retraining courses to assist migrants to obtain recognition in Australia for professional qualifications acquired overseas.

Skills Training Program—STP

The STP, established in 1987–88, focuses on the need to address skill shortages and improve Australia's workforce skills at both occupational and industry levels. It is designed to facilitate a broadening of the training infrastructure in Australia, particularly through fostering a greater training effort on the part of the private sector.

Under this program, the Federal Government has increased the level and range of support for industry and occupational skills training. Key elements of this expanded assistance are:

- packages of direct financial support to industry and firms to upgrade workforce skills to meet the requirements of structural and technological change;
- assisting with the development and expansion of industry skill centres, in conjunction with industry, TAFE and State governments;
- encouraging the development of innovative industry approaches to improved workforce training;
- assistance to overcome national skills shortage by providing appropriate training opportunities through the National Skills Shortages program.

Measures under this program are complementary to policies for increasing private sector involvement in the provision of training through TAFE.

Youth Training Program—YTP

The YTP, established in 1987–88, provides vocational training opportunities for long-term unemployed and other young job seekers under 21 years. The YTP is aimed at those who have been unemployed for at least 6 out of the past 9 months, or who are otherwise especially disadvantaged (e.g. disabled, sole parents, migrants with English language difficulties).

Courses are vocationally oriented with the average duration around 10 weeks. They are developed in cooperation with TAFE or other training providers, and take account of the needs of the participants and the skill requirements of local labour markets. Particular attention is paid to the preparatory training needs of young people and structured training in job search skills are provided. Some of the training opportunities are provided through mainstream TAFE courses particularly for young people who have been unable to undertake training through apprenticeships or traineeships.

Job Search Training Program

The Job Search Training Program, also introduced in 1987–88, has two elements: Job Clubs and Job Search Training. They provide structured training in job search skills. Job Clubs provide intensive 3 week training courses in job search skills for jobseekers unemployed 6 months or more. Job Clubs operate on a group basis under the guidance and supervision of a trained leader.

Participants receive advice, training and supervised practice in résumé and application writing, job interviewing, and personal presentation—increasing the avenues for job hunting. Participants continue to receive their unemployment benefit or Job Search Allowance entitlement for the duration of the course.

Shorter-term Job Search Training opportunities are provided through 200 external organisations, such as community bodies, TAFE and CYSS projects.

Job Creation and Employment Assistance Programs

Community Employment Program—CEP

The CEP was aimed at providing relevant work experience for those most disadvantaged in the labour market, particularly long-term unemployed people on temporary jobs funded through projects of community benefit. CEP commenced in 1983 and was phased out during 1987–88 after announcement of its abolition in the May 1987 Economic Statement.

New Enterprise Incentive Scheme—NEIS

The NEIS provides assistance to unemployed people who have the capacity to establish and operate their own business. The Scheme operates as a joint Commonwealth–State program. The Commonwealth offers participants continued income support for an initial 12 month establishment period and training in small business management. State governments contribute capital loans and resources for assessment of business proposals, and provide business advice and counselling through their small business advisory services. The Commonwealth and State Government assistance provides a comprehensive support package for participants during the crucial establishment phase, increasing their opportunity to establish themselves successfully in permanent self-employment.

The Scheme is open to all unemployed people 18 years and above or their spouses who are in receipt of, or dependent on, Social Security income support. Married rate income support is available.

Jobstart

Jobstart is a general wage subsidy program which aims to:

- provide access to employment in the private sector for job seekers who, because of long-term unemployment or other characteristics, are unable to compete on an equal basis in the labour market;
- enhance the employment prospects of job seekers through the provision of employment experience which will provide, improve or maintain their job-related skills, motivation and confidence;
- provide equitable assistance to disadvantaged groups having regard to the relative labour market needs of these groups.

The target group of Jobstart is people unemployed for at least six out of the last nine months, or job seekers who are otherwise especially disadvantaged in the labour market. These are Aboriginals, migrants with English language/cultural difficulties, people with disabilities, and sole supporting parents.

Jobstart provides private sector employers with subsidy payments for 26 weeks as an incentive to engage and improve the employment prospects of the target group. Subsidy rates are tied to age–earnings levels, with an additional incentive for those unemployed more than 12 months and for the especially disadvantaged groups.

Mobility Assistance Program

The Mobility Assistance Program aims to facilitate referral or placement of job seekers by providing financial assistance towards the costs incurred in pursuing or taking up suitable employment opportunities.

- The *Fares Assistance Scheme* (FAS) provides free travel on public transport for jobseekers to attend job interviews for employment of a continuing nature. This ensures that those most in need of financial assistance are not disadvantaged in their search for employment by the cost of fares.
- The *Relocation Assistance Scheme* (RAS) provides financial assistance to meet the relocation expenses of job seekers who are unable to obtain continuing employment in their present locality and are prepared to move to a new area to take up a job that cannot be filled by suitable local job seekers. Assistance under RAS includes fares and expenses associated with moving a home and family.

Industry Labour Adjustment Assistance

This program aims to contribute to the efficient and equitable functioning of the labour market by improving and adapting the skills/employment base in particular industries or regions undergoing structural change and assisting individuals affected by the change.

Heavy Engineering Adjustment and Development Program—HEADP.

The Department of Employment, Education, and Training administers, in conjunction with the Heavy Engineering Board, the labour adjustment component of the HEADP which comprises two elements:

- assistance for workers retrenched from industry to train, be placed in a subsidised job or relocated to another job;
- skills enhancement.

Financial assistance is provided to employers to upgrade the skills of existing employees, conditional upon improvements in work practices. Firms are required to accept greater responsibility for future training.

The allocation for the labour adjustment component of HEADP is $20 million over the three years of operation of the program, effective from 1 July 1986.

The HEADP provides management efficiency, industrial development and marketing assistance plus a concessional loan finance scheme to provide incentives for investment. This part of the scheme is administered by the Heavy Engineering Board.

Steel Regions Assistance Program—SRAP

This program was introduced in 1983–84 to reduce the impact of steel industry restructuring on the labour markets of the principal steel regions—the Hunter Valley, the Illawarra and Whyalla. The five-year program provides funds to diversify the employment bases of the three regions through enhancement of their economic infrastructure.

The administration of SRAP projects, including the management of funding, is diversified across various federal departments.

Textiles, Clothing and Footwear—Labour Adjustment Package—TCF—LAP
This program is the employment and training component of the assistance plan for the textiles, clothing and footwear industries. The retraining and re-employment package was introduced on 1 January 1988, fourteen months earlier than the start of the Government's Industry Plan on 1 March 1989.

A range of measures is available to assist eligible retrenched workers seeking re-employment in jobs outside the textiles, clothing and footwear industries.

Christmas Island Retraining and Employment Assistance
As a part of the Government's overall policy on the management of Christmas Island, training and re-employment assistance is available to retrenched phosphate mine workers who relocate to the mainland. Special training courses which include English language instruction, and wage subsidies are provided to assist the Chinese and Malay former residents of Christmas Island to gain work skills to help them gain employment in the mainland labour force.

Coal Mining Industry Labour Adjustment Package
Retraining, relocation and in some cases wage subsidy assistance is provided for workers retrenched from the coal mining industry in New South Wales and Queensland. This Adjustment Package is an integral part of restructuring arrangements directed at improving mine viability and securing the future of the industry.

Labour Market Adjustment Assistance—LMAA
This program provides general labour adjustment and training arrangements, to assist workers affected by major contraction in designated industries or areas undergoing restructuring. A range of flexible assistance options is directed towards improving the employment prospects of these workers by updating, upgrading, refreshing or broadening their skill base. This component includes the Labour Adjustment Training Arrangements (LATA) program.

Queensland Rainforests Labour Adjustment Package
Assistance is available to workers in the timber industry and closely related businesses who are retrenched following the cessation of logging in the wet tropical rainforest areas nominated for the World Heritage List. Retraining, wage subsidies and relocation assistance are provided to assist workers to obtain new employment, and a Dislocation Allowance is available on retrenchment.

Community-based and Aboriginals Programs

Community Youth Support Scheme—CYSS

The objective of CYSS, which commenced in 1976, is to assist unemployed people aged 15–24 years to obtain and retain employment or to proceed to further education or training by enabling local communities to develop programs of assistance which will develop the work and personal skills of local unemployed young people.

CYSS projects are administered by publicly elected local management committees which receive grants to assist with staffing, accommodation and administrative costs.

Community Training Program—CTP

Introduced in January 1986, the CTP aims to assist the most disadvantaged job seekers to develop and maintain their ability to obtain and retain employment, or to proceed to further education or training by supporting initiatives by community groups to provide structured programs of training, work experience and job placement and related services.

CTP has two components:

- *Locally-based Projects.* Legally incorporated, non-profit-making community organisations, or in some cases local government authorities, are offered grants to conduct programs providing combinations of vocational training relevant to local labour market needs, work experience placements, personal support services and job placement and referral services. Sponsor organisations provide 25 per cent of the operational costs of the project.

- *Information Technology Centres (ITeCs).* ITeCs offer training in electronics, electronic office skills and computer applications. The Centres also provide community access programs in information technology, and establish and support new enterprise development in the information technology based industries and in industries using information technology.

  Local industries are encouraged to be involved in the development and operation of ITeCs, and 50 per cent of the costs must be contributed from sources other than government.

Community Volunteer Program—CVP

The objective of CVP, which commenced in March 1987, is to assist unemployed people, particularly the young unemployed, to improve their labour market prospects and enhance their personal skills by participating in voluntary activities of benefit to the community.

Volunteer Referral Agencies (VRAs) aim to place unemployed volunteers in voluntary activities which match their skills, interests and/or career preferences. VRAs may be sponsored by incorporated community organisations, local governments, service clubs and business enterprises.

SkillShare—The Community and Youth Network For Employment and Training

The Government has decided that a more effective and consistent use of available funds could be achieved through the integration of the three existing community-based programs, CYSS, CTP and CVP.

SkillShare, which was developed after an extensive consultation process and was formally announced in June 1988, has the aim of ensuring that available community-based assistance is effectively provided for structured training and employment related support for the most disadvantaged job seekers.

SkillShare will commence on 1 January 1989, with existing programs operating under present arrangements until the end of 1988.

Aboriginal Employment

The objectives of this sub-program are to enable Aboriginal people to obtain equitable representation in employment and hence contribute to the promotion of Aboriginal economic independence, by:

- increasing the levels of permanent employment for Aboriginal people in the mainstream labour market; and
- generating employment within Aboriginal communities located in rural and remote areas.

These are sought through participation in the strategies of the Aboriginal Employment Development Policy (AEDP) including implementation of the following component programs:

- *Training for Aboriginals Program* (TAP), which aims to improve training and employment opportunities for Aboriginal people by:
  - — assisting private and public sector employers to develop recruitment and career development strategies for Aboriginal people in the mainstream labour;
  - — negotiating with employers for training assistance linked with employment outcomes;
  - — recognising and supporting community-based employment and training, including training support to enterprises and community development projects; and
  - — providing assistance for vocational training in formal and short-term special courses.

- *Aboriginal Employment Action* (AEA) which encourages large employer corporations to develop recruitment strategies for increasing Aboriginal employment.
- *Aboriginal Enterprise Incentive Scheme* (AEIS) which provides assistance to unemployed Aboriginals to become self-employed in business.
- *Enterprise Employment Assistance* (EEA) which provides wage subsidies to Aboriginal enterprises to create employment opportunities.

Other Assistance

Allowances

To assist disadvantaged job seekers to undertake training or re-training, the Formal Training Allowance (FTA) is made available. This is to support living and other costs during course participation and is payable to eligible people participating in the formal training programs, which are:

- Adult Training Program;
- Youth Training Program;
- SkillShare;
- Training for Aboriginals Program;
- elements of Special Apprenticeship Training;
- the national skills shortages element of the Skills Training Program;
- training elements of New Enterprise Incentive Scheme.

To be eligible to receive FTA, people are generally unemployed for at least six months in the last nine or are otherwise especially disadvantaged in the labour market. FTA is also payable to those who are retrenched or subject to retrenchment under the provisions of various industry and regional employment assistance programs. FTA includes:

- a living component equivalent to the total Unemployment Benefit/Job Search Allowance entitlement of the trainee;
- a training component $30 for those aged 21 and above;
- a Living-Away-From-Home Allowance (LAFHA) for people who need to move to undertake training, and a Home Base Maintenance Allowance for trainees on LAFHA who also maintain a home base;
- ancillary allowances such as for books and equipment, special fares assistance.

Child care

Some assistance with child care is available for sole parents undertaking CES-approved training courses to increase their job prospects. Subsidy is payable for child care which is provided by non-profit bodies/organisations over and above places funded by the Children's Services Program (CSP), the major Federal program for child care. The subsidy covers the duration of the training course and, like CSP, requires a basic parent contribution of $13 per week for full-time care for one child, $15 for two or more children.

LABOUR MARKET PROGRAMS AND SERVICES EXPENDITURE

($'000)

Type of program	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Training Programs—						
Vocational Training for Young People—						
Australian Traineeship System	—	—	—	2,087	13,565	28,607
Formal Training Assistance for Youth	11,365	14,564	16,121	14,854	13,615	*(a)*
Experimental Training Projects	948	1,034	1,807	664	1,720	*(a)*
Youth Training Program *(b)*	—	—	—	—	—	25,890
Trade Training—						
CRAFT	84,938	86,603	99,362	88,075	96,252	102,617
Special Apprenticeship Training	12,397	23,323	21,865	20,213	18,860	16,825
Adult Training *(c)*—						
Adult Training Program	—	—	—	—	—	*(d)*29,480
General Skills Training	—	—	—	4,917	18,455	—
National Skills Shortages	—	—	—	1,061	4,308	*(e)*
Labour Adjustment Training	*(f)*	11,223	9,670	4,616	*(g)*2,064	
Skills in Demand	*(h)*3,606	2,068	3,092	*(i)*3,419	—	—
General Training Assistance—						
Formal	3,306	3,746	4,473	*(j)*3,661	—	—
On-the-job	2,692	1,842	848	*(j)*739	—	—
Former Regular Service Members' Vocational Training Scheme—	74	31	11	10	—	—
Formal (Disabled)	807	1,120	476	*(j)*488	—	—
Industry Training Services	5,222	6,943	8,649	11,716	12,711	12,749
Job Creation and Employment Assistance—						
Job Creation—						
Community Employment Program	—	285,422	405,543	289,925	*(l)*198,981	*(l)*99,454
New Enterprise Incentive Scheme *(k)*	—	—	—	—	—	897,000
Wage Pause Program *(m)*	98,900	101,100	—	—	—	—
Employment Incentives—						
JOBSTART—						
Private Sector	—	—	—	*(n)*18,787	113,972	105,690
CWEP	—	—	—	*(o)*	10,393	2,794
Work Experience (SYETP)	63,625	120,192	97,673	*(q)*61,714	—	—
Adult Wage Subsidy Scheme	375	23,200	35,134	*(q)*25,432	—	—
Special Needs Clients	751	1,938	2,333	*(q)*1,763	—	—
Disabled On-the-Job	4,068	7,161	9,234	*(q)*7,146	—	—
Mobility Assistance—						
Relocation Assistance Scheme	2,160	3,497	3,016	2,629	3,334	3,552
Fares Assistance Scheme	362	416	451	501	665	994
Industry & Regional Employment Assistance—						
Assistance to the Steel Regions	—	—	3,198	894	8,979	5,029
Labour Adjustment Training Arrangements	—	—	—	—	—	1,134
Coal Mining Industry Labour Adjustment Package	—	—	—	—	—	618
Textile, Clothing and Footwear Industries Labour Package	—	—	—	—	—	3
North Queensland Rainforests Labour Adjustment Package	—	—	—	—	—	328
Christmas Island Retraining & Employment Assistance	—	—	—	—	763	1,034
Heavy Engineering Adjustment & Development	—	—	—	—	122	5,243
Community Based and Aboriginal Program—						
Community Youth Support Scheme	17,880	21,348	26,056	31,540	35,092	35,489
Community Training Program—						
Community Youth Special Projects	1,499	2,794	3,342	4,586	*(s)*	—
Work Preparation Program	1,437	1,506	2,594	2,473	*(s)*	—
Locally Based Projects	—	—	—	935	14,181	14,853
Information Technology Centres	—	—	—	354	935	3,942
Community Volunteer Program	—	—	—	—	1,801	3,419
Volunteer Youth Program	178	392	529	816	*(t)*	—
Aboriginal Employment & Training	24,610	41,040	53,356	58,477	63,232	72,199
Total	**341,200**	**762,503**	**808,833**	**664,493**	**634,000**	**1,468,943**

Source: Department of Employment, Education and Training

For footnotes, see next page.

(a) Subsumed under Youth Training Program. *(b)* In 1987–88 the Youth Training Program replaced the under 21 year old element of the former Formal Training Assistance for Youth, Experimental Training Projects and Adult Training (Local Skills Training element) Programs. *(c)* Expenditure in 1985–86 relates to approvals in the period 1 January 1986 to 30 June 1986. This program replaced General Training Assistance Skills in Demand and the formal elements of Special Training for Disabled. *(d)* In 1987–88, the Adult Training Program replaced the 21 and over element of the former Formal Training Assistance for Youth, Experimental Training Projects and Adult Training (Local Skills Training element) Programs. *(e)* In 1987–88, this element was transferred from the Adult Training Program to the Skills Training Program. *(f)* Expenditure included under Skills in Demand. *(g)* In 1986–87, this element formed part of the Adult Training Program; in 1987–88 it formed part of Industry and Regional Employment Assistance. *(h)* Includes LATA expenditure. *(i)* Expenditure relates to approvals on Skills in Demand projects approved prior to 1 January 1986. This program was then replaced by the National Skills element of the Adult Training Program. *(j)* Expenditure relates to approvals to 31 December 1985, when this program was then replaced by the Adult Training Program. *(k)* The New Enterprise Incentive Scheme operated as a Pilot program under CEP in 1985–86 and 1986–87. *(l)* No new funds were approved in 1987–88; expenditure was for commitments entered into in 1986–87, including project varations. *(m)* Funds were appropriated to the Department of Finance. *(n)* Expenditure relates to approvals in the period 1 December 1985 to 30 June 1986. This scheme replaced private sector assistance for Work Experience, Adult Wage Subsidy Scheme, Special Needs Job Seekers and Disabled On-the-job. *(o)* From 2 December 1985, Commonwealth SYETP became the CWEP element of JOBSTART. Expenditure under these elements in 1985–86 is included in the figure for SYETP. *(q)* Expenditure relates to approvals to 30 November 1985 (except in the case of Commonwealth SYETP where expenditure refers to approvals to 30 June 1986). This program was then replaced by JOBSTART. *(s)* From 1986–87, these elements form part of Locally Based Projects. *(t)* From 1986–87, expenditure on VYP projects is included under the Community Volunteer Program.

LABOUR MARKET PROGRAMS AND SERVICES APPROVALS (a)

Type of program	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Training Programs—						
Vocational Training for Young People—						
Australian Traineeships System	—	—	—	1,000	7,085	10,166
Formal Training Assistance for Youth	14,069	15,204	15,246	11,845	9,800	*(b)*
Experimental Training Projects	150	369	630	387	330	*(b)*
Youth Training Program *(c)*	—	—	—	—	—	11,868
Trade Training Program—						
CRAFT	100,577	81,986	80,300	75,600	89,709	86,615
Special Apprentice Training	12,063	14,537	11,514	*(d)*10,202	*(d)*5,406	5,619
Adult Training and Retraining						
Adult Training Program *(e)*	—	—	—	3,090	7,000	15,352
Labour Adjustment Training	*(f)*	3,701	2,765	733	*(g)*190	—
Skills in Demand	*(h)*1,615	426	553	*(i)*818	—	—
General Training Assistance—						
Formal	1,656	1,521	1,766	*(j)*1,331	—	—
On-the-job	3,526	1,832	1,237	*(j)*640	—	—
Formal (Disabled)	111	93	136	*(j)*39	—	—
Job Creation and Employment Assistance—						
Job Creation—						
Community Employment Program *(k)*	—	30,450	46,670	37,019	*(l)*21,400	9,659
New Enterprise Incentive Scheme *(m)*	—	—	—	—	—	450
Wage Pause Program *(n)*	3,532	17,129	—	—	—	—
Employment Incentives—						
JOBSTART—						
Private Sector	—	—	—	*(o)*35,098	64,860	44,930
CWEP *(q)*	—	—	—	—	2,080	—
Work Experience—						
Standard SYETP—						
Private	45,129	50,718	39,893	*(s)*16,362	—	—
Commonwealth	4,233	4,621	4,598	3,558	—	—
State	567	789	—	—	—	—
Extended SYETP	16,337	31,454	24,383	*(s)*10,187	—	—
Adult Wage Subsidy Scheme—						
Standard	1,360	13,074	11,943	*(s)*5,393	—	—
Extended	282	2,279	2,395	*(s)*1,134	—	—
Special Needs Jobseekers	1,012	2,097	2,190	*(s)*1,237	—	—
Disabled On-the-job	2,719	4,140	4,643	*(s)*2,518	—	—
Mobility Assistance—						
Relocation Assistance Scheme	1,985	2,790	2,290	1,749	2,480	1,890

For footnotes *see* end of table.

LABOUR MARKET PROGRAMS AND SERVICES APPROVALS (a)—*continued*

Type of program	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Industry and Regional Employment Assistance—						
Assistance to the Steel Regions	—	—	—	—	—	—
Labour Adjustment Training Arrangements	—	—	—	—	—	93
Coal Mining Industry Labour Adjustment Package	—	—	—	—	—	309
Textile, Clothing and Footwear Industries Labour Package	—	—	—	—	—	8
North Queensland Rainforests Labour Adjustment Package	—	—	—	—	—	10
Christmas Island Retraining and Employment Assistance	—	—	—	—	—	274
Heavy Engineering Adjustment and Development	—	—	—	—	—	455
Community Based and Aboriginal Program—						
Community Youth Support Scheme *(t)*	65,000	70,000	75,000	85,000	100,000	100,000
Community Training Program—						
Community Youth Special Projects *(u)*	n.a.	956	1,202	1,331	*(v)*	—
Work Preparation Program (Disabled)	376	460	482	557	*(v)*	—
Locally Based Projects	—	—	—	38	4,350	4,818
Information Technology Centres	—	—	—	—	150	294
Community Volunteer Program	—	—	—	—	7,000	18,000
Volunteer Youth Program *(w)*	1,600	2,200	3,500	4,100	—	—
Aboriginal Employment and Training	5,594	9,162	9,998	10,173	11,426	10,971
Total all programs	**283,493**	**361,988**	**343,334**	**321,139**	**333,266**	**321,781**

Source: Department of Employment, Education and Training

(a) An approval is defined as a person who was approved for, and commenced under, a specific program, for which financial assistance was available. An approval is registered each time an individual commences in a different component of a program, or in different programs, i.e. the total number of approvals can be greater than the number of individuals commencing in any one year. In some programs, the number of training or course places to be funded or job placements/commencements (CEP) are used instead of approvals. These have been included as approvals, given the explanation above. It should be noted that the total number *assisted* under any program in a financial year exceeds the number of approvals, owing to a carry-over between financial years. *(b)* Subsumed under Youth Training Program. *(c)* In 1987–88 the Youth Training Program replaced the under 21 year old element of the former Formal Training Assistance for Youth, Experimental Training Projects and Adult Training (Local Skills Training element) Programs. *(d)* The lower figure in 1986–87 reflects the decision to discontinue the Pre-Apprenticeship Allowance from 1 January 1987. *(e)* This program replaced General Training Assistance Skills in Demand and the formal elements of Special Training for Disabled. Approvals for General Skills Training and National Skills Shortages in 1985–86 relate to the period 1 January 1986 to 30 June 1986. In 1987–88, the Adult Training Program replaced the 21 and over element of the former Formal Training Assistance for Youth, Experimental Training Projects and Adult Training (Local Skills Training element) Programs. *(f)* Approvals included under Skills in Demand. *(g)* In 1986–87, this element formed part of General Skills Training; in 1987–88 it formed part of Industry and Regional Employment Assistance. *(h)* Figure includes LATA approvals for 1982–83. *(i)* Approvals relate to Skills in Demand projects approved prior to 1 January 1986. This program was then replaced by the National Skills element of the Adult Training Program. *(j)* Approvals relate to the period 1 July 1985 to 31 December 1985. This program was then replaced by the General Skills Training element of the Adult Training Program. *(k)* It should be noted that the CEP figures represent placements made in each financial year regardless of the year of project approval. *(l)* This figures includes 400 people assisted under the pilot New Enterprise Incentive Scheme. *(m)* The New Enterprise Incentive Scheme operated as a pilot program under CEP in 1985–86 and 1986–87. *(n)* Funds for this program were appropriated to the Department of Finance, but the program was administered by the State and Territory governments in consultation with the Department of Employment and Industrial Relations. Figures refer to placements recorded by the CES. It should be noted that not all placement activity occurred through the CES. *(o)* Approvals relate to the period 1 December 1985 to 30 June 1986. This Scheme replaced the private sector assistance for Work Experience, Adult Wage Subsidy Scheme, Special Needs Job Seekers and Disabled On-the-job. *(q)* From 2 December 1985, Commonwealth SYETP became the CWEP element of JOBSTART. Total approvals for these elements in 1985–86 are shown against Commonwealth SYETP. Figures for 1986–87 are shown against CWEP. CWEP was abolished from the end of the 1986–87 financial year. *(s)* Approvals relate to the period 1 July 1985 to 30 November 1985. This program was then replaced by JOBSTART. *(t)* No formal approval is required to attend CYSS projects. The figures provided are only broad Departmental estimates of people who attended projects and are based on monthly reports of the number of people who attended projects. *(u)* The trainee allowance under Community Youth Special Projects (CYSP) was payable only to participants in projects which provided full-time courses. Participants in other CYSP projects retained eligibility for unemployment benefit and so were not included in this table. *(v)* From 1986–87, these elements form part of Locally Based Projects. *(w)* Figures relate to young people involved in voluntary activities. In 1986–87, the Volunteer Youth Program was incorporated in the new Community Volunteer Program.

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8

SOCIAL SECURITY AND WELFARE

The Commonwealth Government, the State governments and voluntary welfare organisations all provide social welfare services. This chapter concentrates on the benefits and services provided by the Commonwealth Government, principally those of the departments of Social Security, Community Services and Health and Veterans' Affairs but mention is also made of the services provided by the departments of Aboriginal Affairs, and Immigration, Local Government and Ethnic Affairs. Also included is a section relating to Income Distribution surveys which provides a summary of the distribution of money income across the Australian population.

Further details of services administered by the Commonwealth Department of Community Services and Health are given in Chapter 9, Health. Details of pension and superannuation schemes for government and semi-government employees, mine workers, parliamentarians and employees of private business are included in Chapter 23, Private Finance.

Commonwealth Government Expenditure on Social Security Services

This section deals with various government payments for the relief of aged, infirm, widowed persons, sole parents, the orphaned and the unemployed, assistance to families, etc. On 1 July 1947, with the passage of the *Social Services Consolidation Act 1947*, all Acts providing social service benefits were amalgamated. The Act is at present styled the *Social Security Act 1947.*

The main social security payments provided by the Commonwealth Government under the Social Security Act, as at June 1988, and the date on which each came into operation, are shown below.

Age pension	1 July 1909
Invalid pension	15 December 1910
Family allowance	1 July 1941
Widow's pension	30 June 1942
Funeral benefit	1 April 1943
Unemployment benefit	1 July 1945
Sickness benefit	1 July 1945
Special benefit	1 July 1945
Allowances associated with the Commonwealth Rehabilitation Service (including Rehabilitation allowance)	10 December 1948
Sheltered employment allowance	30 June 1967
Wife's pension (superseded wife's allowance)	5 October 1972
Supporting parent's benefit (female)	3 July 1973
Double orphan's pension	26 September 1973
Supporting parent's benefit (male)	10 November 1977
Rehabilitation allowance	1 March 1983
Mobility allowance	1 April 1983
Carer's pension (subsumed spouse carer's pension)	1 November 1985
Child disability allowance (superseded handicapped child's allowance)	15 November 1987
Family allowance supplement (superseded family income supplement)	17 December 1987
Job search allowance	1 January 1988

Details of the respective rates of pensions and benefits and details of associated allowances available to certain recipients are shown, along with more specific eligibility criteria, in the Annual Report of the Department of Social Security.

Age and invalid pensions and associated payments

Age pension is payable to men and women who have reached the ages of 65 and 60 respectively. Age pension is generally subject to residence qualifications, an income test and an assets test.

Invalid pension is payable to persons aged 16 years or more who are at least 85 per cent permanently incapacitated for work, of which at least 50 per cent is directly caused by a physical or mental impairment of the person. It is also payable to persons who are permanently blind. Invalid pension is paid subject to residence qualifications, an income test and an assets test. Pensions paid to the permanently blind are not subject to income and asset tests.

Sheltered employment allowance is payable to disabled people who are employed in approved sheltered employment services and are otherwise qualified to receive an invalid pension or would become so qualified should they cease to be provided with sheltered employment. The allowance is subject to the same income and assets tests as apply to the invalid pension and is paid at the same rate. It is payable in the form of a supplement to the sheltered employee's wages.

Rehabilitation allowance is payable to people who receive assistance through the Commonwealth Rehabilitation Service, and who would otherwise be eligible to receive a social security payment. It is subject to the same income and assets tests as the invalid pension, and similar additional benefits are available.

A wife's pension is payable to the wife of an age or invalid pensioner when she is not entitled, in her own right, to an age or invalid pension or rehabilitation allowance. The spouse of a person receiving sheltered employment allowance (and in certain circumstances, a rehabilitation allowance) does not receive a wife's pension as such, but an equivalent payment is made. There is no residence qualification, but an income and assets test does apply.

A carer's pension is payable to a person providing constant care and attention for a severely disabled age or invalid pensioner where the carer is not eligible for a pension in his or her own right.

Additional pension is payable, subject to the income test, for each dependent child under 16 years and dependent full-time students aged 16 to 24 years, who are not in receipt of a prescribed educational allowance (e.g. AUSTUDY). Widowed or other unmarried age or invalid pensioners with a dependent child may, in addition, receive a guardian's allowance. Rent assistance, combined with the basic pension or benefit rate is assessed under the general pension or benefit income test. It is available to pensioners if they pay rent or pay for board or lodging. All recipients of sheltered employment allowance and certain others receive a means test-free incentive allowance in lieu of rent assistance. Remote area allowance is payable to pensioners living in certain remote areas, except for those aged 70 years or more receiving the special rate of age pension.

AGE PENSIONERS: 30 JUNE

Age	*1986*	*1987*	*1988*
60–64 years	163,841	r161,553	163,525
65–69 years	298,270	r297,272	301,362
70–74 years	336,506	r325,977	312,339
75 years and over	525,983	r537,372	551,588
Total	**1,324,600**	**r1,322,174**	**1,328,814**
Number of wife's/carer's pensioners	24,183	r24,751	25,290
		—$'000—	
Total payments during year *(a)*	5,897,156	6,257,148	6,972,771

INVALID PENSIONERS: 30 JUNE

Age	*1986*	*1987*	*1988*
16–19 years	7,464	r 7,772	7,809
20–39 years	58,414	60,123	60,980
40–59 years	149,497	156,874	158,196
60 years and over	58,435	64,281	69,928
Total	**273,810**	**289,050**	**296,913**
Number of wife's/carer's pensioners	83,212	90,157	91,973
		—$'000—	
Total payments during year *(a)*	1,673,523	1,912,167	2,188,388

(a) Includes allowances, rent assistance, and wives' pensions where applicable.

At 30 June 1988 185 sheltered employment services were paying the allowance to 10,361 disabled employees and 308 wives. Expenditure during the year 1987–88 was $70.0 million.

At 30 June 1988, there were 2,143 persons in receipt of rehabilitation allowances. Expenditure during the year 1987–88 was $19.1 million.

Widows' pensions and associated payments

The term 'widow' refers both to de jure and de facto widows, and includes certain other categories of women who have lost the support of a male breadwinner, e.g. divorcees and deserted wives.

There are three categories of widow pensioners:

Class 'A'. A widow who has one or more qualifying children under the age of sixteen years.

Class 'B'. A widow who, because she has no qualifying children or students in her custody, care and control, is not eligible for a Class 'A' widow's pension but is either at least 50 years of age or, after having reached the age of 45, has ceased to receive a Class 'A' pension by reason of ceasing to have a qualifying child or student. (From July 1987, gradual phasing out of the Class 'B' widow's pension began. From that date, no new grants were made except to women who were in circumstances which would have made them eligible before that date.)

Class 'C'. A widow not eligible for Class 'A' or Class 'B' widow's pension, who is under 50 years of age and is in necessitous circumstances in the 26 weeks following her husband's death.

A widow's pension is income and assets tested and is not payable to a woman receiving an age or invalid pension, a supporting parent's benefit, an unemployment, sickness or special benefit, a sheltered employment allowance, or a war widow's pension.

In addition to the basic pension, a mother's/guardian's allowance and additional pension for each dependent child are payable in the case of a widow with children. Rent assistance is also available to widows if they pay rent or pay for board or lodging. Remote area allowance is payable to widows living in certain remote areas.

WIDOW PENSIONERS, BY TYPE AND AGE: 30 JUNE

	1986	*1987*	*1988*
Class 'A' widow pensioners aged—		r	
Under 20 years	50	56	37
20–29 years	7,880	6,909	6,088
30–39 years	32,424	29,809	26,961
40–49 years	25,199	24,839	19,366
50–59 years	8,450	8,009	4,132
60 years and over	177	186	65
Class 'B' widow pensioners aged—			
45–49 years	4,111	4,288	6,540
50–54 years	19,843	20,188	21,259
55–59 years	38,374	37,867	38,879
60 years and over	19,013	19,764	20,014
Class 'C' widow pensioners	102	r137	110
Total	**155,623**	**152,052**	**143,451**
		—$'000—	
Total payments during year *(a)*	924,517	952,652	1,001,901

(a) Includes payment to benevolent homes for maintenance of pensioners. It also includes rent assistance and allowances.

Supporting parent's benefit and associated payments

Supporting parent's benefit was introduced in November 1977 to extend to supporting fathers the same benefit that had previously been available to supporting mothers through supporting mother's benefit. The benefit is available to sole parents who have a child under 16 years. It is subject to an income and an assets test. Additional payments are the same as for the widow's pension.

SUPPORTING PARENTS, BY AGE AND TYPE: 30 JUNE

	1986	*1987*	*1988*
Age—		r	
Under 20 years	9,968	9,700	9,471
20–29 years	79,164	78,794	80,159
30–39 years	62,311	64,084	67,790
40–49 years	21,000	22,320	21,544
50–59 years	4,043	3,967	2,864
60 years and over	244	234	179
Type of beneficiary—			
Females—			
Unmarried mothers	45,385	45,014	45,654
Separated wives	102,184	106,089	109,819
Separated de facto wives	19,091	17,760	16,605
Males—			
Widowers	1,159	1,037	837
Divorcees	1,485	1,394	1,126
Separated husbands	5,929	6,412	6,721
Separated de facto husbands	1,242	1,055	881
Other	255	r338	364
Number of beneficiaries	176,730	179,099	182,007
		—$'000—	
Total payments during year *(a)*	1,237,959	1,366,717	1,525,242

(a) Includes rent assistance and allowances.

Unemployment, sickness and special benefits and associated payments

Unemployment benefit is payable to persons over 18 and under age pension age, who are unemployed. Job search allowance is payable to unemployed persons aged 16 to 17 years to encourage the active search for jobs. Sickness benefit is payable to persons aged at least 16 years, but under age pension age, who are temporarily incapacitated for work. They must have been living in Australia during the preceding twelve months or be likely to remain permanently in Australia. Both unemployment and sickness benefits are subject to an income test, and an assets test also applies to beneficiaries aged 25 years and over. Job search allowance is subject both to a parental income test and a personal income test. A person cannot receive the benefits simultaneously, nor can a person receive a benefit at the same time as an invalid, widow's, service pension or supporting parent's benefit.

For unemployment benefit purposes, people must establish that they are unemployed, that their unemployment is not due to industrial action by themselves or by members of a union of which they are a member, that they are capable and willing to undertake suitable work, and that they have taken reasonable steps to obtain such work. Registration for employment with the Commonwealth Employment Service is necessary. For sickness benefit purposes, people must establish that they are temporarily incapacitated for work because of sickness or injury and that they have thereby suffered a loss of salary, wages or other income.

A special benefit may be granted to persons not qualified for unemployment or sickness benefit who are not eligible for any pension, and who, because of age, physical or mental disability or domestic circumstances, or any other reason, are unable to earn a sufficient livelihood for themselves and their dependants. Recipients of special benefits include, among others, persons ineligible for a pension or benefit because of lack of residence qualifications and migrants in government accommodation centres awaiting their first employment in Australia. The benefit is designed to meet cases of special need and may also be paid as income support over a period if no other social security benefit is payable. The rate paid may not exceed the rate of unemployment or sickness benefit.

All beneficiaries with dependent children are eligible for an additional benefit for each dependent child except where the dependent child is in receipt of a prescribed educational allowance. In addition, sole parents are eligible for mother's/guardian's allowance. Rent assistance is also payable to beneficiaries who have at least one child under 16 years, and other beneficiaries after six continuous months on benefit provided they pay rent other than to a public housing authority. A young homeless allowance is available to recipients of job search allowance, and to sickness and special beneficiaries under 18 years, who are homeless and without parental or custodial support.

UNEMPLOYMENT, SICKNESS AND SPECIAL BENEFITS: YEAR ENDED 30 JUNE

	1986	*1987*	*1988*
Unemployment beneficiaries—			
Number of benefits granted	811,799	872,866	743,674
Number on benefit at end of year	569,761	550,850	475,070
Average number on benefit at end of each week during year	559,237	574,385	502,514
Sickness beneficiaries—			
Number of benefits granted	143,164	154,430	154,963
Number on benefit at end of year	65,301	70,261	75,060
Average number on benefit at end of each week during year	63,481	67,748	74,557
Special benefit beneficiaries—			
Number of benefits granted	98,044	96,325	127,433
Number on benefit at end of year	18,579	19,875	22,646
Average number on benefit at end of each week during year	18,302	19,158	21,598
		$'000—	
Amount paid during year *(a)*—			
Unemployment	3,122,120	3,453,802	3,374,879
Sickness	391,820	429,368	511,042
Special benefit	108,131	124,607	150,800

(a) Includes additional allowances.

Fringe benefits

The Commonwealth Government makes several non-cash 'fringe benefits' available to pensioners and recipients of supporting parent's and sickness benefits, and their dependants, who are entitled to a Pensioner Health Benefits (PHB) card or, in the case of sickness beneficiaries, a Health Benefits (HB) card. The issue of a PHB card is subject to a special income test. The benefits include:

- a range of free pharmaceuticals;
- a one-third reduction in telephone rental (subject to the income of co-residents);
- reduced fares for Commonwealth Government railway services;
- postal redirection concessions;
- free hearing aids services.

State and Territory governments, local government authorities and private organisations also provide certain fringe benefits. The most valuable of these are reductions in local government rates and in public transport charges.

There were 1,741,062 pensioners at 30 June 1988 with PHB cards entitling them to Commonwealth pensioner fringe benefits.

Unemployment and special beneficiaries, and other persons on low income, receive a Health Care card entitling them to a range of pharmaceuticals at a concessional rate. This concession is also available to pensioners whose income and assets exceed the qualifying limits for fringe benefits.

Family allowances

Family allowance is payable, subject to an income test, to a person with children under 16 years or full-time students aged 16 to 24 years who are not in receipt of a pension, benefit or allowance in their own right or prescribed educational allowance. An additional allowance, also subject to an income test, is payable in respect of multiple (three or more) births until the children turn six years. Payment is usually made to the mother. Approved charitable, religious or government institutions are paid family allowance for children in their care.

Generally, to be granted an allowance the person and the child must be in Australia and be Australian citizens, or intend to remain in Australia permanently.

FAMILY ALLOWANCES: 30 JUNE 1988

Number of children and students in family	*Number of families*							
	NSW (a)	*Vic.*	*Qld*	*SA (b)*	*WA*	*Tas.*	*NT*	*Aust.*
1	249,087	179,023	122,327	64,053	67,009	20,814	7,909	710,222
2	270,149	199,768	132,224	70,726	77,061	22,850	7,717	780,495
3	119,140	87,472	59,562	26,034	32,903	9,982	3,771	338,864
4	33,307	23,130	17,337	6,107	8,539	2,658	1,357	92,435
5	6,877	4,567	3,857	1,137	1,676	544	446	19,104
6	1,914	1,120	1,026	244	441	132	165	5,042
7	515	314	308	62	137	28	37	1,401
8	162	113	101	24	31	9	16	456
9	45	40	35	4	8	3	6	141
10 or more	23	22	19	3	5	1	1	74
Total families	**681,219**	**495,569**	**336,796**	**168,394**	**187,810**	**57,021**	**21,425**	**1,948,234**
No. of children in families	1,331,443	965,100	663,731	315,879	365,928	110,909	43,755	3,796,745
No. of children in approved institutions	2,069	1,249	2,907	268	756	129	52	7,430
					—$'000—			
Amount paid during year	478,129	345,688	235,735	126,991	129,783	39,342	(c)	(d)1,355,664

(a) Includes ACT and excludes Broken Hill Regional Office. (b) Includes Broken Hill Regional Office. (c) Expenditure for NT included in SA. (d) Includes an amount of $3,000,000 recovered from overseas.

Family allowance supplement

Family allowance supplement is paid subject to an income test to low-income families with one or more children eligible for family allowance so long as they are not in receipt of any Commonwealth pension, benefit or allowance which provides additional payment for dependent children, and so long as the children of these families are not receiving means-tested Commonwealth payments. Levels of payment are age-related and are linked to the rates of additional pension and benefits for children. Rent assistance is also available to recipients of family allowance supplement if they pay rent other than to a public housing authority. The number of families in receipt of family allowance supplement at 30 June 1988 was 141,336. The amount paid during the year 1987–88 was $213,577,000.

Child disability allowance

Child disability allowance may be paid to a parent or guardian of a child under 16 years or a dependent full-time student who has a physical, intellectual or phychiatric disability. For the allowance to be payable, the disabled child must require and receive constant care and attention and must be living in the family home. The allowance is not subject to an income test, but a residence qualification similar to that for family allowance applies. The number of child disability allowances being paid at 30 June 1988 was 32,071. The total amount paid through these allowances during the year 1987–88 was $33.8 million.

Double orphan's pension

Double orphan's pension is payable free of means test with respect to children under 16 years, or dependent full-time students under 25 years whose parents are both dead or one parent is dead and the other is not available to care for the child. The family allowance residence test applies. The pension may also be paid with respect to a refugee child whose parents are both outside Australia, or their whereabouts is unknown.

Mobility allowance

Mobility allowance is a payment, free of means test, for disabled people unable to use public transport without assistance who are employed or undertaking vocational training.

Funeral benefit

This benefit is a small lump sum payment to assist in meeting the costs of funerals of deceased pensioners or their dependants.

Special temporary allowance

On the death of one of a married pensioner couple, the surviving pensioner is entitled to receive the equivalent of twelve weeks combined pension payments.

Social security—portability and reciprocal agreements

Australian pensions, with the exception of widows' pensions for non-de jure widows, supporting parents' benefits and carers' pensions, can be transferred abroad once they have been granted. Since 1 July 1986, the rate of pension to be paid abroad is proportional to the period of Australian residence during a 25 year working life. The number of Australian pensions paid abroad under portability provisions at 30 June 1988 was 24,184.

Australia has comprehensive reciprocal social security agreements with the United Kingdom, New Zealand, Italy and Canada. Negotiations and discussions are proceeding with major migrant-source countries in order to establish a network of agreements. The purpose of the network is to protect the social security rights of people who divide their working lives between Australia and other countries.

Other services of the Department of Social Security and the Department of Community Services and Health

The Department of Social Security provides a professional social work service and Ethnic and Aboriginal Liaison Office Schemes. The Department of Community Services and Health administers grants to major national welfare organisations such as: Australian

Council of Social Service, Australian Council of the Ageing, Australian Council for Rehabilitation of Disabled, Australian Early Childhood Association and to non-government welfare agencies providing emergency relief or in financial difficulties. The Department of Social Security also provides funding to the Social Welfare Research Centre at the University of New South Wales.

Commonwealth Government Assistance Through Welfare Organisations

Supported Accommodation Assistance

The *Supported Accommodation Assistance Program* (SAAP) was introduced in all States and Territories from 1 January 1985. It incorporated former programs such as the *Women's Emergency Services Program*, the *Youth Services Scheme* and the *Homeless Persons' Assistance Program.* SAAP consolidated and improved the coordination of former Commonwealth–State and Commonwealth programs and has been developed jointly with States and Territories in consultation with service providers and users.

SAAP aims to provide supported accommodation services and related support services to men, women, young people and their dependants, who are permanently or temporarily homeless as a result of crisis, and who need such assistance to move toward independent living where possible and appropriate.

SAAP provides recurrent and capital non-housing funds to non-profit organisations and local government bodies for supported accommodation such as refuges, hostels and half-way houses and for related support services such as meals services, non-clinical community based rape crisis centres, day centres, detached workers and referral services. A complementary *Crisis Accommodation Program* (CAP) within the Commonwealth–State Housing Agreement provides capital housing funds for SAAP services. CAP also provides some capital funding for unsupported accommodation.

SAAP comprises the following three sub-programs:

- *Youth Supported Accommodation Program* (YSAP)—services for young people aged 12–25 years, and, if applicable, their dependants.
- *Women's Emergency Services Program* (WESP)—services for women, and women with dependent children, escaping from intolerable domestic circumstances or other crisis situations.
- *General Supported Accommodation Program* (GSAP)—services for homeless men, women, and any dependants, and services which do not clearly come within YSAP or WESP.

The *Supported Accommodation Assistance Act 1985* provides the legislative base for the program, which is administered on a day-to-day basis by State and Territory governments in accordance with the SAAP Agreement and national guidelines. Commonwealth–State advisory structures involving both levels of government and service providers have been established in States and Territories to advise on program needs and priorities. The Act contains a sunset clause with the legislation terminating on 30 June 1989. In addition, the SAAP Agreements between the Commonwealth Government and the State and Territory governments specified that a joint evaluation was to be conducted, beginning no later than 30 June 1987.

A comprehensive review of the Program was conducted in 1987 by an independent consultant, Ms Colleen Chesterman, and her report, 'Homes Away From Home', was presented to the Commonwealth and State ministers in January 1988. In developing its proposal for funding arrangements to apply after 30 June 1989, the Commonwealth Government will take account of the review report, community consultations and consultations between Commonwealth, State and Territory officials.

In 1983–84 the Commonwealth spent $14.9 million on programs later incorporated in SAAP, including the *Homeless Persons' Assistance Program*. Between 1984–85 and

1986–87, Commonwealth SAAP expenditure increased from $30.0 million to $49.1 million. Expenditure in 1987–88 was $55.2 million. States and Territories are required to match nominated Commonwealth expenditure on SAAP.

Home and Community Care Program—HACC

HACC, jointly funded by the Commonwealth Government and the State and Territory governments, is a program which was established during 1985–86. HACC funds organisations and community groups which provide home and community support services for the frail aged and people with disabilities to enable them to remain living at home. The Program aims to enhance the independence, security and quality of life of frail aged and younger disabled people by avoiding their inappropriate admission to long-term residential accommodation by facilitating and promoting the development of cost-effective community care alternatives appropriate and according to need.

Services funded under the Program provide basic maintenance and support, either in the home or in the community. These can include home help and personal care; home maintenance and modification; food services; community respite care; transport services; community paramedical services; community nursing; assessment and referral; education and training for service providers and users; information and coordination.

The Commonwealth made available $5.0 million in 1987–88 to fund projects which test new approaches to providing services. Packages of home care services are put together for individuals which are appropriate to their particular needs. A number of projects were approved for New South Wales, Victoria and South Australia. These projects will be closely monitored to evaluate the effectiveness of the various coordinating arrangements and to assess the economics of community care. Discussions on other projects in the remaining States and Territories are proceeding.

Under the terms of the HACC Agreements a review of the Program is required at least every third year. The first review commenced in November 1987 and is due for completion early in 1989.

National Guidelines for the Program were published in the *Commonwealth Gazette* of 18 May 1988. These guidelines are designed to provide interested groups with a broad understanding of the Program, including its aims, scope, funding processes and requirements.

During 1987–88 the Commonwealth's role in the Program was the subject of an efficiency audit by the Auditor-General with a report being tabled in the Parliament on 24 May 1988.

COMMONWEALTH EXPENDITURE ON HOME AND COMMUNITY CARE PROGRAM
($'000)

	1985–86	*1986–87*	*1987–88*
HACC Payments to the States and Northern Territory	100,501	134,343	167,884
HACC Payments to the Australian Capital Territory	343	770	1,291
Planning and development	90	260	219
Total expenditure	**100,934**	**135,373**	**169,394**

Programs for families with children

The Children's Services Program provides grants to local government authorities and non-profit community organisations for a range of child care services. Children of working parents are catered for by centres or through other families and by out-of-school care services. Occasional care services are provided for the children of parents who are at home and who need a few hours a week without their children.

Other services funded under the program include special services for Aboriginal children and children with disabilities or of non-English speaking background, as well as resource and advisory services for child care service providers.

In additon, a small number of multifunctional child care centres are being developed in remote and rural communities across Australia. This new type of child care facility is designed to meet the full range of child care needs within one service.

The Family Support Services Scheme was administered jointly with State and Territory Governments. It provided funds for a range of services offering coping and counselling skills to families in stress. The Family Support Program, which commenced on 1 January 1987, replaced this scheme. It is a joint Commonwealth–State funded venture. Services funded under this Program help all kinds of families with young children by strengthening the helping resources already available in most communities. As of 1 July 1988, Commonwealth funds for the Family Support Program will be paid to State and Territory Governments through general revenue grants. With Commonwealth objectives and priorities in place, States and Territories will then be responsible for the continuation of this program supporting families.

EXPENDITURE ON CHILDREN'S SERVICES PROGRAM
($'000)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Pre-school	33,090	33,090	33,090	16,545	—	—
Other children's services *(a)*	64,954	80,125	122,726	150,072	181,245	224,945
Total expenditure	**98,044**	**113,215**	**155,816**	**166,617**	**181,245**	**224,945**

(a) Including Family Support Services Scheme and Family Support Program.

Emergency relief grants

The *Emergency Relief Program* provides community welfare organisations with grants to help them make emergency relief payments to individuals and families experiencing temporary financial crisis, the solution to which is beyond their own resources.

To improve the effectiveness of the program, Commonwealth–State advisory committees in each State and Territory recommend which agencies should receive funds. The committees consist of representatives of the Commonwealth Departments of Community Services and Health, Social Security, Aboriginal Affairs, State and Territory welfare departments and the non-government sector, represented by the relevant State/Territory Council of Social Service.

COMMONWEALTH EMERGENCY RELIEF APPROPRIATIONS

Financial year	*Appropriation*
	$
1983–84	5,000,000
1984–85	5,950,000
1985–86	6,000,000
1986–87	6,320,000
1987–88	6,720,000
1988–89	7,040,000

People with disabilities

Under Part II of the *Disability Services Act 1986*, the Commonwealth provides grants to States and eligible organisations (non-profit and local government bodies and tertiary institutions) towards the recurrent and capital costs of a range of eligible services. These services include accommodation support, advocacy, competitive employment training and placement, independent living training, information, print disability services, recreation, respite care, and supported employment.

For services to be eligible for funding they must cater predominantly for persons with a disability, whose disability results in their having a substantially reduced capacity for communication, learning or mobility. The disability must be attributable to an intellectual, psychiatric, sensory or physical impairment or a combination of such impairments, and be permanent or likely to be permanent.

The Disability Services Act requires organisations to report regularly on the extent to which they have achieved positive consumer outcomes for their clients. In addition, formal reviews of their services are scheduled every five years.

The funding for eligible services in 1987–88 amounted to $148.8 million. An estimated 35,000 people with disabilities receive services from funded organisations.

The Department of Community Services and Health's Rehabilitation Services provide social and vocational rehabilitation services for working age people with disabilities. The major criterion for acceptance into a rehabilitation program is the expectation of significant gain towards independent living or vocational goals.

Services are provided from and arranged through a national network of some 90 regional rehabilitation units. Programs may include:

- employment, vocational, mobility and other independent living training and education courses;
- diagnostic and assessment services, occupational therapy, physiotherapy, speech therapy and counselling services;
- aids and appliances and home, vehicle and workplace modifications;
- associated accommodation and training allowances.

In 1987–88, 12,409 people received rehabilitation assistance from the Department. Expenditure on rehabilitation services in 1987–88 was $48.9 million. The number of clients participating in rehabilitation programs is expected to rise to about 13,600 in 1988–89 as some of the more recently established regional rehabilitation units increase their range of services.

In the 1986–87 Budget, the Commonwealth introduced a number of initiatives aimed at improving the accommodation options available to younger people with disabilities. It was found in the Handicapped Programs Review and the Review of Nursing Homes and Hostels that many younger people with disabilities were being housed in nursing homes which were quite inappropriate for their needs, minimising the opportunity for self-development afforded by less restrictive types of accommodation. These initiatives comprise:

- increasing the number of accommodation places available for disabled people over the next three years;
- providing attendant care services in the community for some of those severely physically disabled people who presently live in Commonwealth funded nursing homes and are capable of managing their own affairs;
- commencing a gradual down-scaling of some special purpose nursing homes by relocating residents in the community.

Residential care for aged people

The aim of the Commonwealth Government's residential care program is to ensure access by frail aged and disabled people to the combination of services which is most appropriate to their needs and which will promote their independence. Support is provided by the Commonwealth for two main types of residential care services—nursing homes and hostels. Nursing homes provide services for people who need continuous professional nursing and personal care, while hostels provide a wide range of accommodation and personal care services for less dependent aged and disabled people.

Two of the key objectives of the residential care program are to provide a range of accommodation and care services to meet the assessed needs of aged persons, and to promote the quality of life for residents receiving such care. There is concern that, to date, the public has perceived nursing homes as being the principal form of care for elderly people, and that there has been an over-emphasis in the level of resources supplied to this sector. The admission of people to nursing homes, where this level of care is not essential, disadvantages those people and results in fewer resources being available to support other types of care for other aged and disabled people. As a result, the Government is developing a range of policies to prevent inappropriate admissions to nursing homes, to ensure that the growth of nursing homes is curtailed, and to develop further alternative residential accommodation and care options, together with expanded community care options.

COMMONWEALTH EXPENDITURE ON NURSING HOMES AND HOSTELS, 1987–88 ($'000)

	NSW	*Vic.*	*Qld*	*WA*	*SA*	*Tas.*	*ACT*	*NT*	*Aust.*
Nursing homes for aged (recurrent)	441,095	312,901	160,041	89,746	136,047	28,765	6,042	2,958	1,177,595
Hostels (recurrent)	27,906	23,132	18,826	9,255	11,592	1,837	134	694	93,378
Nursing homes and hostels (capital)	17,095	11,062	22,335	4,333	6,913	1,777	1,415	537	65,467

APPROVED NURSING HOMES AND HOSTELS AND BEDS, 1987–88

	NSW	Vic.	Qld	WA	SA	Tas.	ACT	NT	Aust.
Approved nursing homes and beds for aged—									
Nursing homes	497	393	198	112	161	48	4	5	1,418
Beds	28,502	15,764	11,779	6,163	7,240	2,113	421	161	72,143
Approved hostels and beds—									
Hostels	298	234	176	120	125	25	7	2	987
Beds	13,762	9,603	8,278	4,094	5,186	801	339	58	42,121

Planning mechanisms

The focus of the long term strategy of the government is a commitment to provide in each State 100 residential care places per 1,000 persons aged over 70 years. This would comprise approximately 60 hostel and 40 nursing home beds, a target to be achieved over the next twenty years. As at June 1988, the national nursing home/hostel ratio was almost the reverse of this, with there being 64 nursing home beds and 37 hostel beds per 1,000 persons aged over 70 years. To correct existing imbalances, it is intended that only 10 per cent of any new beds approved will be for nursing homes, with the remainder being hostel places. From 1988 to 1991, it is expected that approximately 1,400 new nursing home beds and 12,300 new hostel beds will be approved. This planning mechanism provides the control of the rate of future growth of nursing homes and allows for the relocation of resources to other aspects of care for the aged and disabled. To complement the planning procedure, there are improved arrangements for admission control to nursing homes to ensure that only persons for whom nursing home care is the most appropriate option are admitted.

Assessment services

The government recognizes the need for a more complete and effective assessment of care needs of frail elderly people. Policies are being implemented to ensure that aged people should have appropriate advice to assist them to choose suitable services. In order to satisfy these requirements, funding has been provided for the development of assessment services which will assess the medical, psychological and social needs of aged persons. An Australia-wide network of assessment teams is being developed in cooperation with State and Territory governments. At June 1988, the Commonwealth was supporting some 50 services based at community centres and hospitals around the country. (State authorities are also funding a considerable number of assessment services.) The services assess people in their own homes, in hospitals or in extended care facilities to help aged people decide on the type of care which best meets their needs. It is intended that in the next three to five years, the teams will take over the full responsibility for both assessing all people seeking nursing home admission and determining hostel subsidy eligibility.

Quality of life and quality of care

The Commonwealth has had an on-going responsibility for the physical environment of nursing homes and hostels. This responsibility is backed up by regular inspection of facilities. However, as a reflection of the concern for the needs of the individuals within residential facilities, there has been a significant change in focus towards the outcome of the service, that is, the quality of care and quality of life of residents.

In the past, regulations and legislation have primarily addressed the inputs to care and the physical environment of nursing homes, rather than the outcomes.

New outcome standards for nursing homes were adopted by the Commonwealth from 1 July 1987. These standards were developed during 1986–87 by the Commonwealth, State and Territory governments working in consultation with people and groups involved in the nursing home industry, and describe the care and lifestyle objectives of nursing homes. The intent of the standards is to encourage and enable residents to perform activities, maintain responsibilities and receive support according to their individual needs and capacities. To implement the new standards, monitoring arrangements have been established.

Commonwealth Standards Monitoring Teams have been established in each State to assess the quality of life and care provided to residents in nursing homes. Teams aim to visit each home at least once a year. They talk to residents, visitors and nursing home staff to get a picture of how the nursing home meets residents' wishes and needs. The central objective is to ensure satisfactory resident care and to this end monitoring teams take a constructive and educative approach to negotiating appropriate action where standards are not being met.

New Outcome Standards for hostels are being developed in consultation with the industry and relevant State and Territory authorities.

Equity of access to residential care

A key element of the needs-based planning mechanism noted above is to ensure equity of access to residential care for special needs groups in all geographic areas. In particular, steps are being taken to improve access by the ethnic and Aboriginal communities. In addition, the Commonwealth uses approaches such as fees control in nursing homes and quotas in hostels to ensure that financial disadvantage does not restrict entry to supported accommodation.

Uniform national recurrent funding for nursing homes

The first stage of new funding arrangements for non-government nursing homes commenced from 1 July 1987. The new arrangements are being phased in over the period 1 July 1987 to 1 July 1991 and will involve two funding modules:

- a Standard Aggregated Module (SAM) introduced from 1 July 1987, comprising an infrastructure component, to cover all fixed and operating costs, including return on investment; and
- a nursing and personal care module, known as the Care Aggregated Module (CAM), to be introduced from 1 July 1988, to cover the costs of nursing and personal care.

The restructured funding arrangements complement the new quality of life and quality of care standards. In effect, the funding arrangements provide for a specified level of service for nursing home care on behalf of residents at a predetermined price. Emphasis is being placed on outcomes rather than inputs to give providers of care greater flexibility and incentive to increase efficiency.

Hostel funding

To facilitate the process of redistributing resources for the care of aged people away from being focussed on nursing homes to alternative, less institutionalised forms of residential care, such as hostels and community care, substantial increases in resources for the hostel sector have been provided, both through capital and recurrent funding.

Options for financing capital expenditure on hostels and for developing a more flexible and equitable funding base for organisations were canvassed in a public discussion document, *Equitable Funding Base for Hostels*, which was released in September 1987.

The major recommendations of the document focus on changes to the planning and funding mechanisms for hostels. They have the objectives of removing unnecessary restrictions on organisations' access to funds, as well as allowing them increased capacity to raise funds themselves through borrowings and residents' entry contributions from people with a capacity to contribute to the cost of their accommodation. This increased capacity of organisations to raise funds will allow Commonwealth capital moneys to be better targeted to financially disadvantaged people and other areas of need.

The level of Commonwealth capital funding provided to hostel projects will now vary according to the need identified in that area for places for financially disadvantaged people.

The protection of residents' rights is being directly addressed through the development of refund provisions for all entry contributions.

Enabling legislation to introduce the new funding arrangements was passed in the Budget sitting in 1987, with anticipated implementation in the first half of 1988–89.

Assistance for home-based nursing care

While the residential care program focuses mainly on long-stay residential care, there are provisions through the program for assistance to those aged and disabled persons who wish to stay in the community. Short-term or respite care is available for these persons who are living in the community. It allows carers of such persons a break from their care responsibilities and provides support for frail aged people caring for themselves.

In addition, the Domiciliary Nursing Care Benefit is available to assist people who choose to care, in their own homes, for chronically ill or infirm relatives. Typically, these people are incapable of caring for themselves or being left unsupervised for any significant period, and would require admission to a nursing home if the home-care were not available. The basic criteria for the payment of the benefit are that the person must be aged 16 or over and be in receipt of continuing nursing care under the supervision of a registered nurse. The benefit is payable at the rate of $42 a fortnight.

Aboriginal and Torres Strait Islander People

A referendum in May 1967 led to the repeal of section 127 of the Constitution enabling Aboriginal and Torres Strait Islander people to be counted in the census. The Constitution was also amended to give the Commonwealth Government concurrent legislative powers with the State governments in relation to Aboriginals.

The Commonwealth Government's aim is to help Aboriginals become self-managing and self-sufficient while at the same time, preserving and developing their own distinctive cultures.

The Commonwealth Government has used four key federal bodies to work towards achieving these aims, namely the Department of Aboriginal Affairs, the Aboriginal Development Commission, Aboriginal Hostels Limited and the Australian Institute of Aboriginal Studies.

The Department of Aboriginal Affairs, established in 1973, is responsible for policy planning and coordinating Aboriginal and Torres Strait Islander affairs at the national level. The Department has regional offices in all States and the Northern Territory.

The Aboriginal Development Commission (ADC), was established in 1980 by the Commonwealth Government to assist Aboriginal and Torres Strait Islander groups, communities and individuals to acquire land for a variety of purposes, engage in business enterprises, obtain finance for housing and other personal needs, and receive training where necessary.

Aboriginal Hostels Limited, established in 1973 as a company owned and funded by the Federal Government, provides temporary hostel accommodation for Aboriginal and Islander people across Australia.

The Australian Institute of Aboriginal Studies was established by legislation in 1964 to promote Australian Aboriginal and Torres Strait Islander studies in the arts, education, languages, health, history, archaeology, sociology and anthropology.

Aboriginal views on the long term goals and objectives which the Government should pursue, the programs it should adopt, and on the need for new programs in Aboriginal affairs have in recent years been sought through various Aboriginal advisory organisations such as the National Aboriginal Consultative Council (NACC, 1973–77) and the National Aboriginal Conference (NAC, 1977–1985).

In December 1987 the Government announced a major restructuring of its federal Aboriginal organisations.

Following extensive consultation with Aboriginal people the Government proposes to establish an Aboriginal and Torres Strait Islander Commission (ATSIC) to take over the role and functions of the Department of Aboriginal Affairs, the Aboriginal Development Commission, Aboriginal Hostels Limited and the Australian Institute of Aboriginal Studies.

The new Commission will, for the first time, formally combine the consultative functions with the administrative functions presently undertaken by the four governmental bodies.

Migrants

Intake

The number of migrants who have come to Australia since the end of World War II has passed the 4.5 million mark. These migrants have contributed significantly to Australia's population which has more than doubled, from 7.4 million at the end of 1945 to over 16.4 million at the end of 1987. At this time about 21 per cent of Australia's population was born overseas. Post-war immigration peaked in 1970 with 185,300 settler arrivals, and declined thereafter to a low of 54,100 in 1975. In 1987 settler arrivals numbered 128,300.

Accommodation of migrants

A network of hostels and self-contained units provides on-arrival accommodation and settlement services for needy migrants (essentially refugees). There are a hostels in both Sydney and Melbourne and self-contained units in all mainland State capitals, providing accommodation for around 1,500 persons at any time.

Ethnic Affairs—services for migrants and refugees

The Department of Immigration, Local Government and Ethnic Affairs (DILGEA) provides services to facilitate the successful settlement and welfare of migrants and refugees and their integration into Australian society. Its responsibilities therefore interface with the broader responsibilities of the Advisory Council on Multicultural Affairs and with the Office of Multicultural Affairs (OMA) located within the Department of Prime Minister and Cabinet.

Settlement Services Units operate in all States and Territories to provide support and counselling to individuals and groups of migrants as they settle into the community. These Units consist of a team of social workers supported by welfare officers, many of whom are bilingual, and they offer services from a range of locations such as migrant centres, DILGEA offices and in communities where recently-arrived migrants are settling. Where practicable, migrants are referred to the local community services most suitable to their needs. DILGEA staff are working to assist mainstream agencies in making their services more accessible to migrants.

Departmental activities are complemented by those of social workers and welfare officers employed by voluntary agencies funded by Commonwealth grants. In many respects these voluntary agencies are best placed to assist migrants. The number of Grants-in-Aid for the employment of welfare workers by voluntary agencies as at 30 June 1988 was 209. The Settlement Services Branch also administers the Migrant Project Subsidy Scheme (MPSS) which provides grants of up to $10,000 for a wide range of welfare related projects. In 1987–88, 48 grants worth a total of $200,000 were approved.

As part of its settlement services, DILGEA provides an interpreting and translation service to non-English-speaking migrants and refugees, and to members of the host community having dealings with them. The Department also offers a translation service to Commonwealth departments and other bodies. In some cases, a fee may be charged for these services. At the present time, translation units are operating in Canberra, Melbourne and Sydney and a translation service is offered by Telephone Interpreter Service (TIS) centres in other capitals.

In 1973 TIS was established to help overcome language related communication problems by providing, via the telephone, a 24 hour interpreting, information and referral service. TIS interpreters, together with community contract interpreters, cover over 75 languages. Where necessary, and especially in emergency situations, arrangements may be made for the personal attendance of an interpreter. TIS currently operates through staffed centres in all State and Territory capitals and via a 008 link to these centres from the rest of Australia. During the year ended 30 June 1988, a total of 367,515 calls was received by TIS.

Cost sharing agreements to encourage the establishment or extension of State interpreting and translation services in areas of prime State responsibility have been concluded with New South Wales, Victoria, Queensland, South Australia and the Northern Territory. The Commonwealth had contributed $5.51 million under the cost-sharing program since its inception in 1979 to 30 June 1988. The program is currently being reviewed with the States and the Northern Territory.

A National Accreditation Authority for Translators and Interpreters (NAATI) was established in 1977 to develop standards of competence for those professions in Australia and to test and accredit interpreting–translating practitioners and courses. In October 1984, NAATI became an independent incorporated body. Currently, NAATI is in the third year of a five year program of accelerated expansion and development. NAATI is strongly supported and funded jointly by the Commonwealth, State and Territory governments.

Twenty-three migrant resource centres and seven sub-centres and one pilot project have been established in areas of high migrant density. These resource centres provide support for all agencies (both government and voluntary) which assist migrants, and also provide a focus for community participation and development of local resources to meet migrant needs.

The settlement of refugees is an important element in the Commonwealth Government's overall migrant settlement program. In addition to offering refugees on-arrival accommodation and settlement services, the Commonwealth also places an increasing number of migrants directly into the community where they are in the care of families and other groups which have undertaken to provide support and assistance under the Community Refugee Settlement Scheme.

The Adult Migrant Education Program (AMEP) provides a wide range of language learning opportunities, and offers information about Australia. DILGEA is responsible for the funding and coordination of the program at the national level, while service delivery is provided in the main by Adult Migrant Education Services in each State and Territory. In 1987–88, expenditure on AMEP was $59 million. Provisional data show that 75,000 participants undertook one or more AMEP courses in 1987–88.

The status of 'Australian Citizen' was created under the *Nationality and Citizenship Act 1948* which came into force on 26 January 1949. The relevant Act is now the *Australian Citizenship Act 1948* and under its provisions all new settlers, regardless of origin, are required to satisfy uniform requirements for the grant of citizenship. In the financial year 1987–88, 74,722 applications for Australian citizenship were received compared with 69,624 in 1986–87 and 99,153 in the 1985–86 financial year. Almost two million new settlers have been granted Australian citizenship since 1949.

Veterans' Affairs

The Repatriation Commission was established under the *Repatriation Act 1920*. With the repeal of that Act on 22 May 1986, the Commission has continued in existence under the *Veterans' Entitlements Act 1986*. At present, the Commission consists of three full-time members. The functions of the Commission are set out in section 180 of the Veterans' Entitlements Act and include:

- granting pensions, allowances and other benefits in accordance with the provisions of the Act;
- establishing, operating and maintaining hospitals and other institutions for the treatment of eligible persons;
- arranging the provision of treatment and other services for eligible persons;
- advising the Minister and providing him with information on matters relating to the Act;
- performing other functions conferred on the Commission by the Act or other Acts;
- administering the Act subject to the control of the Minister.

The Department of Veterans' Affairs provides the administrative machinery through which the Commission operates. The central office of the Department is in Canberra. There is a branch office in the capital city of each State which is under the control of the Deputy Commissioner. Regional offices are located in Newcastle, Wollongong, Canberra, Ballarat, Townsville and Darwin.

The principal functions of the Department cover:

- payment of disability and dependants' pensions, service pensions and allowances to eligible veterans and their dependants;
- provision of medical treatment for veterans for injuries and illnesses accepted as service-related;
- provision of medical treatment in certain circumstances for veterans who are suffering from injuries and illnesses whether service-related or not;
- provision of medical treatment for war/defence widows and certain dependants of deceased veterans;
- commemoration of eligible Australian veterans whose post-war deaths are related to their war service;
- provision of a wide range of other benefits for eligible persons.

Since 5 October 1976, the *Defence Service Homes Act 1918* has been administered by the Defence Service Homes Corporation (DSHC) within the Departmental framework. The Department also has responsibility for the Office of Australian War Graves and the Australian War Memorial.

Repatriation benefits are provided under the Veterans' Entitlements Act in respect of service with the Australian Defence Forces in World War I, World War II, Korea and Malayan operations, Australian contingent of the British Commonwealth Far East Strategic Reserve, Vietnam and South East Asia conflict and for service in the Regular Defence Forces on or after 7 December 1972. Certain civilians may also be eligible for benefits, as are Australian members of certain designated peacekeeping, observing and monitoring forces who had peacekeeping service overseas. Under the *Papua New Guinea (Members of the Forces Benefits) Act 1957*, indigenous inhabitants of Papua New Guinea who served in the Australian Forces in World War II and members of the Royal Papuan Constabulary and New Guinea Police Force who served in that conflict are eligible for compensatory type benefits. Australian mariners of World War II are eligible for compensation benefits under the *Seamen's War Pensions and Allowances Act 1940* and for income support benefits (service pension) subject to the conditions laid down in the Veterans' Entitlements Act. Members of other Commonwealth countries' forces and other allied veterans are not eligible for compensatory-type benefits in respect of their service, unless they were domiciled in Australia immediately before their enlistment. They may, however, qualify for income support payments such as the service pension.

The Annual Report of the Repatriation Commission provides more detailed information on Repatriation allowances, benefits and services.

VETERANS' AFFAIRS (excl. DSHC): TOTAL EXPENDITURE (a)
($'000)

Class	1982–83	1983–84	1984–85	1985–86	1986–87	1987–88
Pensions, allowances and other benefits	1,719,058	2,035,026	2,334,799	2,587,404	2,766,858	3,111,508
Medical treatment	499,005	561,035	612,238	681,172	778,111	511,986
Administration	69,556	84,848	116,934	111,805	107,330	135,588
Works and maintenance	26,968	43,021	46,687	49,728	66,425	56,861
Total expenditure	**2,314,587**	**2,723,930**	**3,110,658**	**3,430,109**	**3,718,724**	**3,815,943**

(*a*) Includes expenditure by departments other than Veterans' Affairs.

Benefits Program

The objective of the Benefits Program is to compensate veterans and dependants for the effects of war or defence service. Benefits such as pensions and allowances are administered under two sub-programs, the Compensation Sub-program and the Income Support Sub-program.

Compensation Sub-program

The main benefits provided under this sub-program are the disability pension and the war/defence widow's pension.

The disability pension is a compensatory payment for incapacity due to eligible war, defence or peacekeeping service. It is paid at a general rate between 10 per cent and 100 per cent, depending on the degree of war- or defence-caused incapacity. Higher rates are payable for those incapacitated to the 100 per cent general rate level where the war- or defence-caused incapacity alone affects their capacity for work. The intermediate rate is payable where the person is unable to work more than 20 hours a week and the special rate is payable where the person is unable to work more than eight hours a week.

The war/defence widow's pension is payable to the widow of a veteran:

- whose death has been accepted as war- or defence-caused;
- who was receiving or entitled to receive a special rate disability pension at the time of his death.

Orphan's pension is payable to the children of these veterans.

The following tables provide an analysis of the number of pensions in force, and veteran's class of pension.

DISABILITY PENSIONS FOR INCAPACITATED VETERANS: NUMBER IN FORCE, BY CLASS OF PENSION: 30 JUNE 1988

Class	*1914–18 War*	*1939–45 War (a)*	*Korea, Malaya and FESR*	*Special Overseas Service*	*Peace-time forces*	*Miscel-laneous*	*Total*
Special Rate (T & PI or equivalent)	273	20,193	594	559	292	11	21,922
Intermediate Rate	4	821	23	33	24	2	907
General Rate—from 10 per cent to 100 per cent assessed disability	945	120,471	3,807	8,336	10,358	84	144,001
Total	**1,222**	**141,485**	**4,424**	**8,928**	**10,674**	**97**	**166,830**

(a) Includes Interim Forces.

DISABILITY PENSIONS: NUMBER IN FORCE

Class	*30 June 1987*	*30 June 1988*	*Variation per cent*
Veterans	169,257	166,830	–1.4
Wives and wife widows	117,980	112,532	–4.6
Children	14,598	12,933	–11.4
War widows	70,870	73,255	+3.4
Children of deceased veterans	854	767	–10.2
Orphans	36	30	–16.7
Other dependants	1,517	1,333	–12.1
Total	**375,112**	**367,680**	**–2.0**

The following table shows the number of pensions in force and the expenditure for disability pensions in each of the years ended 30 June 1982 to 1988.

DISABILITY PENSIONS

	Number of disability pensions in force at 30 June				
Year	*Incapaci-tated veterans*	*Dependants of incapaci-tated veterans*	*Dependants of deceased veterans*	*Total*	*Annual expenditure (a) ($'000)*
1982–83	168,355	186,859	55,259	410,473	646,470
1983–84	166,062	183,105	58,110	407,277	722,660
1984–85	165,377	179,420	63,524	408,321	837,230
1985–86	169,109	170,589	70,044	409,742	549,125
1986–87	169,257	132,971	72,884	375,112	548,901
1987–88	166,830	125,821	75,029	367,680	586,691

(a) Includes associated allowances.

A number of specific need allowances are available to veterans for their war- or defence-caused incapacity. They include attendant allowance, specific disability (section 27) allowance, clothing allowance, recreation transport allowance, vehicle assistance scheme benefits, temporary incapacity allowance and loss of earnings allowance. Decoration allowance is also available.

SPECIFIC NEED ALLOWANCES

	No. of recipients—	
Benefit	*at 30 June 1987*	*at 30 June 1988*
Attendant allowance	1,014	977
Section 27 (items 1–6)	62	61
Section 27 (items 7–15)	1,239	1,244
Clothing allowance	2,365	2,486
Recreation transport allowance	3,332	3,160
Recreation allowance	1,311	1,314
Vehicle assistance scheme	82	74

The *Veterans' Children Education Scheme* provides assistance with education and training for the children of special rate disability pensioners and certain other incapacitated veterans and deceased veterans whose death has been accepted as war- or defence-caused or who were receiving special rate disability pension or a section 27 allowance (items 1–6) at the time of death.

VETERANS' CHILDREN EDUCATION SCHEME, EXPENDITURE
($'000)

Cost of education of beneficiaries	*NSW (a)*	*Vic.*	*Qld*	*SA (b)*	*WA*	*Tas.*	*Aust.*
1985–86	1,344.8	929.5	731.1	303.1	270.4	162.7	3,741.6
1986–87	1,674.0	1,093.0	951.4	324.1	367.0	221.3	4,630.8
1987–88	1,754.0	1,233.1	1,166.0	387.6	349.2	267.2	5,157.1

(a) Includes ACT. *(b)* Includes NT.

VETERANS' CHILDREN EDUCATION SCHEME: NUMBER RECEIVING BENEFITS AT 30 JUNE 1988

Type of training	*NSW (a)*	*Vic.*	*Qld*	*SA (b)*	*WA*	*Tas.*	*Total*
At school—							
Primary *(c)*	128	101	113	52	64	33	491
Secondary	436	241	366	90	119	91	1,343
Total at school	*564*	*342*	*479*	*142*	*183*	*124*	*1,834*
Tertiary professional	174	122	91	51	46	21	505
Technical	31	53	11	—	1	3	99
Industrial	—	—	8	—	—	—	8
Total	**769**	**517**	**589**	**193**	**230**	**148**	**2,446**

(a) Includes ACT. *(b)* Includes NT. *(c)* Not in receipt of an education allowance.

Income-Support Sub-program

The main benefit paid under this sub-program is the service pension. This is an income and asset tested pension similar to the age and invalid pensions payable by the Department of Social Security. The pension is payable to veterans with qualifying service at age 60 (males) or 55 (females). Veterans with qualifying service may be paid the pension at any age if they are permanently incapacitated for work. Qualifying service generally means service in an area and at a time when danger from hostile enemy forces was incurred by the veteran.

Veterans of other Commonwealth and allied countries may also qualify for the service pension for service in wars or war-like conflicts in which Australia has engaged. Veterans of Commonwealth forces must have served outside the country of enlistment or be entitled to the award of a campaign medal for service within that country. Allied veterans must have served in formally raised forces. The veteran must be an Australian resident with at least ten years residency. Service pension is also available to Australians, other Commonwealth and allied mariners of World War II.

Service pensioners who satisfy a separate income and assets test may be eligible for 'fringe benefits', provided by the Commonwealth Government, which include medical and hospital treatment, pharmaceutical benefits and telephone rental concessions.

A funeral benefit is available to assist in defraying the cost of the funeral of a service pensioner eligible for fringe benefits. The benefit is also available in respect of the funeral for a veteran who died in needy circumstances or who was receiving a special rate disability pension at the time of death. It is also payable in respect of the funeral of a veteran whose death has been accepted as war- or defence-caused and, finally, for certain dependants of veterans.

The following table gives an analysis of the total number of pensions in force, as at 30 June 1988.

SERVICE PENSIONS: NUMBER IN FORCE, 30 JUNE 1988

Class	*1914–18 War*	*1939–45 War*	*Korea, Malaya and FESR*	*Special Overseas Service*	*British Common-wealth*	*Allied Forces*	*Miscel-laneous*	*Total*
Veterans—								
Old age	1,823	181,102	1,623	268	25,709	3,827	2,065	216,417
Permanently incapacitated	—	10,774	1,642	1,189	1,566	234	263	15,668
Tuberculosis *(a)*	4	601	12	1	8	—	—	626
Total	*1,827*	*192,477*	*3,277*	*1,458*	*27,283*	*4,061*	*2,328*	*232,711*
Wives and widows	1,009	139,994	2,156	1,023	21,055	3,219	1,697	170,153
Total	**2,836**	**332,471**	**5,433**	**2,481**	**48,338**	**7,280**	**4,025**	**402,864**

(a) Eligibility on these grounds ceased on 2 November 1978.

The following table provides a summary of Service Pensions in force.

SERVICE PENSIONS

	Pensions in force as at 30 June 1988			
	Veterans	*Wives and widows*	*Total*	*Annual expenditure (a) ($'000)*
1982–83	200,492	140,656	341,148	1,057,950
1983–84	218,660	156,845	375,505	1,294,279
1984–85	227,705	164,794	392,499	1,477,874
1985–86	233,751	169,801	403,552	1,616,987
1986–87	234,209	170,585	404,794	1,745,888
1987–88	232,711	170,153	402,864	2,011,205

(a) Includes associated allowances.

Treatment for Veterans and Dependants of Veterans

Treatment is provided for all disabilities which have been accepted as service-related, and for pulmonary tuberculosis and cancer not related to service. In addition, and subject to certain conditions, treatment in Australia is provided for most non-service-related disabilities for: incapacitated veterans receiving disability pensions at or above the maximum (100 per cent) general rate; World War II veterans receiving both service pension at any rate and disability pension at the 50 per cent rate or higher; veterans or nurses who served in World War I; veterans of the Boer War; veterans who were detained by the enemy; war widows and certain other dependants of deceased male veterans whose deaths have been accepted as service related, and of deceased Special Rate pensioners; certain service pensioners; and returned servicemen of World War II.

Special emphasis is given to caring for the aged, aimed at limiting the dependence of veterans and war widows on nursing home care and encouraging the alternative of home care.

Treatment is provided at six repatriation general hospitals (one in each State), three auxiliary hospitals and Anzac Hostel in Victoria.

Expenditure totalled $288.4 million in 1986–87 and $319.7 million in 1987–88. In addition, expenditure of $489.7 million in 1986–87 and $493.3 million in 1987–88 was incurred on medical services outside these institutions.

Repatriation hospitals and institutions

The figures below represent an Average Staffing Level for the year ending 30 June 1988.

FULL-TIME EQUIVALENT OPERATIVE STAFF EMPLOYED UNDER THE PUBLIC SERVICE ACT AT 30 JUNE 1988

1987–88 Average Staffing Level	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*ACT*	*Aust.*
Direct non-institutional care *(a)*	67.9	72.6	34.7	29.1	20.5	34.6	12.7	272.1
Short-term institutional care *(b)*	2,640.4	1,837.6	1,338.3	930.4	1,033.2	274.6	—	8,054.6
Long-term institutional care *(c)*	324.7	188.7	90.8	—	—	—	—	604.2
Total	*3,033.0*	*2,098.9*	*1,463.7*	*959.5*	*1,053.7*	*309.2*	*12.7*	*8,930.7*

(a) Includes VVCS limb and appliance centres and the Hobart Pathology Laboratory. *(b)* Includes Repatriation General Hospitals. *(c)* Includes Auxiliary Hospitals and ANZAC Hostel.

The following table gives details of in-patients treated at repatriation general hospitals and other repatriation institutions in each State (including community patients). The figures shown refer to treatment episodes, e.g. a person who is admitted to hospital twice during a year is counted twice.

In addition to the repatriation institutions, entitled persons are treated in other country and metropolitan hospitals and nursing homes at departmental expense. During 1985–86 and 1986–87, 54,868 and 64,810 entitled persons were accommodated and treated in non-departmental hospitals and 2,473 and 5,568 respectively in nursing homes.

Repatriation psychiatric patients requiring custodial care for a service-related disability are, by agreement with the State governments, accommodated at the expense of the Department of Veterans' Affairs in separate wings of psychiatric hospitals administered by the State authorities. Excluding 15 on trial leave, there were 301 repatriation patients in these hospitals at 30 June 1988.

Out-patient treatment is provided throughout Australia at repatriation hospitals and clinics and through the Repatriation Local Medical Officer Scheme, During 1987–88, 833,840 out-patients were treated at repatriation institutions, and local medical officers consultations totalled 3,377,311. The number of repatriation local medical officers in Australia at 30 June 1988 was 14,539.

REPATRIATION GENERAL HOSPITALS AND INSTITUTIONS: IN-PATIENTS TREATED 1987–88

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust.*
REPATRIATION GENERAL HOSPITALS							
Admissions during year	20,943	18,597	9,984	9,208	10,122	2,594	71,448
Discharges (including deaths)	20,818	18,516	10,042	9,166	10,153	2,580	71,275
Total in-patients treated	21,376	18,918	10,267	9,370	10,415	2,658	73,004
Daily average beds occupied	469	365	316	205	261	63	1,680
REPATRIATION AUXILIARY HOSPITALS							
Admissions during year	1,574	716	379	—	—	—	2,669
Discharges (including deaths)	1,563	708	381	—	—	—	2,652
Total in-patients treated	1,731	921	437	—	—	—	3,089
Daily average beds occupied	148	109	59	—	—	—	316

Other medical services

Entitled persons may also be provided with: medicines, drugs and dressings through the Repatriation Pharmaceutical Benefits Scheme; services of allied health professionals including physiotherapy and podiatry; optometrical services including spectacles; dental treatment through the Local Dental Officer Scheme; rehabilitation and social work services; counselling through the Vietnam Veterans Counselling Service; and surgical aids and aids-to daily living.

Artificial limb and appliance services

The following table gives details of production by all centres and commercial firms as a result of orders placed by the Department.

REPATRIATION ARTIFICIAL LIMB AND APPLIANCE CENTRES AND COMMERCIAL FIRMS: PRODUCTION, 1987–88
(number)

CENTRES	
Legs	2,160
Arms	117
Surgical and adapted footwear	5,786
Other surgical appliances	1,346
Repairs	19,759
COMMERCIAL FIRMS	
Legs	2,409
Arms	177
Limb repairs	5,813

A wide range of artificial limbs and other surgical aids is supplied by the Repatriation Artificial Limb and Appliance Centre in each State capital and by sub–centres in Darwin, Townsville, Canberra, Newcastle and Albury. A mobile workshop operates in Victoria to provide services to remote locations. In addition, the Central Development Unit is located in Melbourne, and engages in research and development in the prosthetic and orthotic field.

Since 1973, artificial limbs have been provided free of charge to all members of the community who need them (except where patients are eligible for compensation), either through the Department's Repatriation Artificial Limb and Appliance Centres or on order through commercial limb-makers. The number of limbs supplied through the Department has increased significantly as the community has taken advantage of the Free-Limbs Scheme.

The cost of the Free Limb Scheme for 1986–87 was $7.1 million.

The Office of Australian War Graves

The Office of Australian War Graves has two main functions. Its major area of responsibility by sheer volume of work is the implementation of government policy for the perpetual commemoration of eligible Australian veterans whose post-war deaths are related to their war service. The authority for this program was established by a War Cabinet Decision on 10 March 1922 and re-confirmed in several subsequent decisions.

It also maintains on behalf of the Commonwealth War Graves Commission, War Cemeteries and other commemorations in Australia, Papua New Guinea, Solomon Islands (Guadalcanal) and Norfolk Island. This responsibility is covered by a formal agreement between Australia and the Commonwealth War Graves Commission which was signed on 1 January 1975. Under a separate arrangement with the Commonwealth War Graves Commission the Office of Australian War Graves also maintains the Ambon War Cemetery in Indonesia.

The *War Graves Act 1980*, dated 23 May, created the statutory position of Director of War Graves. The Director is responsible under the Secretary of the Department of Veterans' Affairs for administering all matters associated with the Office of Australian War Graves' commemorative functions.

The Office maintains 19,199 war graves in 70 War cemeteries and 900 civil cemeteries. It also maintains 150,000 post-war commemorations scattered throughout 1,500 civil cemeteries. In 1987–88 it commemorated 10,700 veterans who died of war-related causes.

The Office provides an information service to those wishing to visit any of the 75,000 Australian war dead buried in some 70 countries overseas.

It holds records relating to the Commonwealth dead of World War II and the Australian dead of World War I.

Full details of the operations of the Office of Australian War Graves are contained in its Annual Report.

Household Expenditure

Official Australian involvement in household expenditure surveys can be traced back to the beginning of this century. In 1910–11 a survey entitled *Inquiry into the Cost of Living in Australia*, was undertaken by the then Commonwealth Bureau of Census and Statistics (now the Australian Bureau of Statistics). During this survey, diaries were distributed to some 1,500 volunteers who were asked to keep records of all expenditures over the twelve month period from July 1910 to June 1911. Only 222 diaries were returned, which severely impaired the reliability of the results.

Because of the poor response to the 1910–11 inquiry, the Bureau conducted a further expenditure inquiry in 1913 which was intended to achieve a higher response rate by reducing the diary-keeping period to four weeks. However, the response was again small, with only six per cent of the 7,000 diaries returned.

The next major Household Expenditure Survey was not conducted until 1974. This Survey ran from July 1974 till June 1975. Further expenditure surveys were conducted in 1975–76, 1984 and 1988–89. After the 1974–75 survey, geographical coverage was extended beyond the six State capital cities and Canberra to include urban and rural areas in all States and Territories except remote and sparsely settled areas.

The 1988–89 Household Expenditure Survey was the fourth major survey of its kind undertaken by the Australian Bureau of Statistics. It was conducted continuously over the twelve month period July 1988 to June 1989. Household expenditure surveys are designed to find out how the expenditure patterns of private households vary according to income level and other characteristics such as household size, composition, location and principal source of income. Information gathered from household expenditure surveys is primarily for use in reviewing the weighting pattern of the Consumer Price Index (CPI) which is used universally as a measure of change in the cost of living.

Early information from the 1988–89 Survey will be available in the latter half of 1989.

Summary of findings from the 1984 Survey

In 1984, average weekly household expenditure on commodities and services in Australia was $361.84. Household expenditure varied considerably across the States and Territories with the highest weekly expenditure being recorded in the two Territories at $472.38 for households in the Australian Capital Territory and $463.46 in the Northern Territory. Households in Tasmania had the lowest average weekly expenditure at $311.90. These differences in household expenditure reflect to some extent the differences in average weekly household income across the States and Territories. Households in the Australian Capital Territory and the Northern Territory had the highest average weekly incomes at $627.97 and $583.96 respectively. Households in Tasmania had the lowest average weekly household income at $392.47. These differences in household income are in turn related to such characteristics as the proportion of household income derived from earnings or government cash benefits, the average number of employed persons per household and the average age of the household head.

At the national level, average weekly household expenditure (*see* figure below) on *food* and *non-alcoholic beverages* ($71.22 or 19.7 per cent of total expenditure on commodities and services), on *transport* ($59.00 or 16.3 per cent) and on *current housing costs (for selected dwellings)* ($46.46 or 12.8 per cent) accounts for 48.8 per cent of total expenditure. Much less significant is the expenditure on *personal care* ($6.60 or 1.8 per cent) and on tobacco ($5.73 or 1.6 per cent).

1984 HOUSEHOLD EXPENDITURE SURVEY: HOUSEHOLD EXPENDITURE BY HOUSEHOLD INCOME QUINTILE GROUP, AUSTRALIA *(a)*

	Average weekly household gross income distribution ($)					
	0–171	*172–314*	*315–472*	*473–675*	*676 or more*	
	Lowest 20%	*Second quintile group*	*Third quintile group*	*Fourth quintile group*	*Highest 20%*	*All households*
AVERAGE WEEKLY HOUSEHOLD EXPENDITURE ($) *(b)*						
Broad expenditure group						
Commodity or service						
Current housing costs (selected dwelling)	25.92	35.20	50.27	55.13	65.85	46.46
Fuel and power *(c)*	7.25	9.28	10.68	11.53	14.06	10.56
Food and non-alcoholic beverages	38.53	57.70	69.23	81.73	108.97	71.22
Alcoholic beverages	3.88	8.12	11.53	15.48	22.52	12.30
Tobacco	3.13	5.50	6.21	6.54	7.25	5.73
Clothing and footwear	8.82	15.43	19.90	25.64	47.56	23.46
Household furnishings and equipment	11.49	19.38	26.12	34.12	47.38	27.69
Household services and operation	9.55	13.10	14.85	17.15	23.85	15.70
Medical care and health expenses	6.14	10.42	14.42	16.58	22.82	14.07
Transport *(d)*	19.98	41.67	56.02	72.18	105.25	59.00
Recreation	16.75	27.24	39.80	51.56	80.38	43.13
Personal care	3.18	4.77	5.98	7.76	11.33	6.60
Miscellaneous commodities and services	9.73	14.42	22.88	32.86	49.81	25.93
Total commodity or service expenditure	**164.35**	**262.23**	**347.88**	**428.26**	**607.04**	**361.84**
Selected other payments						
Income tax	6.28	25.90	66.28	105.15	197.07	80.07
Mortgage payments—principal (selected dwelling)	1.76	3.32	6.73	8.80	11.83	6.49
Other capital housing costs *(e)*	7.25	7.64	16.66	21.39	37.16	18.01
Superannuation and life insurance	0.93	3.46	10.37	16.40	26.43	11.51
HOUSEHOLD CHARACTERISTICS						
Average weekly household income ($) *(f)*	116.23	238.47	389.13	568.57	956.97	453.60
Average number of persons per household (number)	1.67	2.68	3.06	3.20	3.57	2.84
Average age of household head (years)	59.72	49.55	42.04	40.93	42.99	47.05
Number of households in sample	1,772	1,811	1,933	2,017	2,038	9,571
Estimated total number in population						
Households ('000)	*1,005.5*	*1,013.1*	*1,007.2*	*1,007.7*	*1,005.7*	*5,039.2*
Persons ('000)	*1,683.3*	*2,710.4*	*3,081.3*	*3,222.7*	*3,593.2*	*14,290.9*

(a) The quintile groups in this table are 20% groupings of the estimated population when households are ranked in ascending order according to each household's total gross weekly income. *(b)* The average obtained when the total estimated expenditure for a particular broad expenditure group is divided by the estimated number of households within the scope of the survey in the relevant quintile group. *(c)* Excluded from this item are fuel and power for motor vehicles, which are included in Transport. *(d)* Includes fuel and power for motor vehicles. *(e)* Includes purchases of dwellings and other property; additions/extensions and renovations to dwellings; outside building and swimming pools; and payments to landscape contractors. *(f)* Household income is the sum of the gross weekly income of all household members.

1984 HOUSEHOLD EXPENDITURE SURVEY: HOUSEHOLD EXPENDITURE BY STATES AND TERRITORIES

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
AVERAGE WEEKLY HOUSEHOLD EXPENDITURE ($) *(a)*									
Broad expenditure group									
Commodity or service									
Current housing costs (selected dwelling)	52.05	45.70	43.17	36.63	41.50	39.04	67.42	60.78	46.46
Fuel and power *(b)*	9.76	12.19	9.27	10.72	10.37	10.91	10.71	13.57	10.56
Food and non-alcoholic beverages	73.14	73.18	69.32	62.79	69.18	62.80	88.24	86.06	71.22
Alcoholic beverages	13.13	11.11	12.21	11.49	13.24	9.45	25.04	15.05	12.30
Tobacco	5.65	6.41	4.63	5.50	6.27	5.56	9.60	4.42	5.73
Clothing and footwear	26.26	24.21	18.80	20.66	20.72	23.18	17.85	29.54	23.46
Household furnishings and equipment	28.85	27.67	23.04	29.84	28.54	23.93	37.26	35.62	27.69
Household services and operation	16.20	15.86	14.92	14.30	15.74	13.16	22.89	20.07	15.70
Medical care and health expenses	14.07	15.40	13.17	13.64	12.72	11.40	15.33	15.92	14.07
Transport *(c)*	57.22	61.92	58.24	54.89	62.47	47.59	68.47	80.93	59.00
Recreation	42.34	45.89	40.48	36.47	46.50	41.01	60.83	59.78	43.13
Personal care	6.74	6.89	6.01	6.72	6.24	5.70	7.01	7.87	6.60
Miscellaneous commodities and services	27.91	23.89	27.33	20.52	26.52	18.17	32.82	42.76	25.93
Total commodities or service expenditure	**373.31**	**370.31**	**340.58**	**324.18**	**360.01**	**311.90**	**463.46**	**472.38**	**361.84**
Selected other payments									
Income tax	82.35	85.35	69.32	67.63	81.82	66.06	106.55	131.49	80.07
Mortgage payments—principal (selected dwelling)	6.81	6.43	6.43	5.26	7.09	4.82	5.06	7.95	6.49
Other capital housing costs *(d)*	24.15	16.70	10.75	9.36	21.44	6.78	*25.82	*24.84	18.01
Superannuation and life insurance	10.93	12.07	11.14	10.75	11.47	10.53	19.77	23.25	11.51
HOUSEHOLD CHARACTERISTICS									
Average weekly household income ($) *(e)*	458.43	472.22	424.07	417.13	452.87	392.47	583.96	627.97	453.60
Average number of persons per household (number)	2.82	2.83	2.93	2.73	2.82	2.80	3.03	3.03	2.84
Average age of household head (years)	47.34	47.64	46.95	47.52	45.33	46.79	37.44	41.83	47.05
Number of households in sample	2,040	1,947	1,504	1,049	1,084	718	587	642	9,571
Estimated total number in population:									
Households ('000)	*1,766.9*	*1,320.6*	*794.5*	*461.6*	*450.9*	*144.5*	*26.0*	*74.3*	*5,039.2*
Persons ('000)	*4,983.9*	*3,737.1*	*2,329.8*	*1,261.7*	*1,269.7*	*404.7*	*78.8*	*225.2*	*14,290.9*

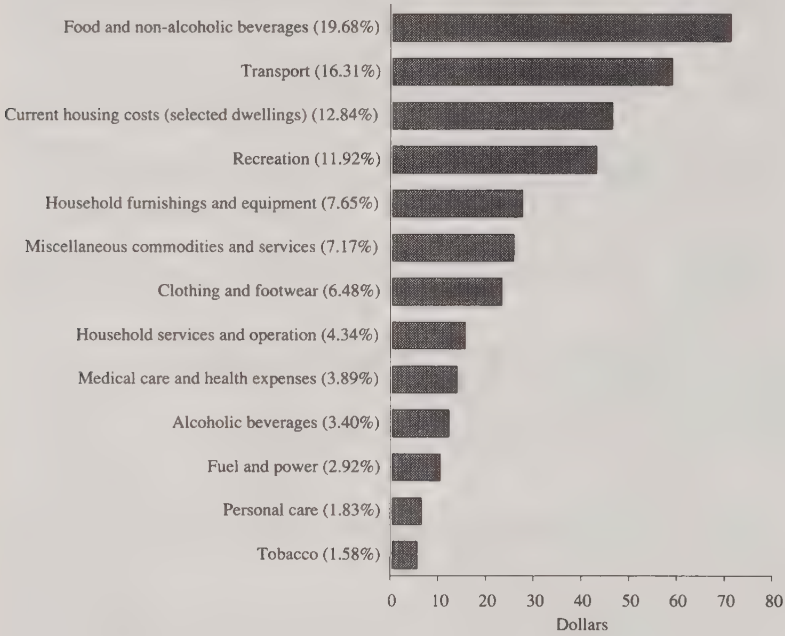
(a) The average obtained when the total estimated expenditure for a particular broad expenditure group is divided by the estimated number of households within the scope of the survey. *(b)* Excluded from this item are fuel and power for motor vehicles, which are included in Transport. *(c)* Includes fuel and power for motor vehicles. *(d)* Includes purchases of dwellings and other property; additions/extensions and renovations to dwellings; outside building and swimming pools; and payments to landscape contractors. *(e)* Household income is the sum of the gross weekly income of all household members.

1984 HOUSEHOLD EXPENDITURE SURVEY: AVERAGE INCOME, BENEFITS AND TAXES BY GROSS HOUSEHOLD INCOME DECILE

	Gross income decile (a)										
Income,benefits and taxes	*Lowest 10%*	*Second decile*	*Third decile*	*Fourth decile*	*Fifth decile*	*Sixth decile*	*Seventh decile*	*Eighth decile*	*Ninth decile*	*Highest 10%*	*All house-holds*
					—Average weekly value ($)—						
Private income	**11.83**	**29.31**	**80.09**	**221.38**	**315.14**	**397.39**	**491.22**	**595.04**	**738.02**	**1,136.91**	**401.43**
Direct benefits:											
Age pension	51.10	51.78	39.85	11.36	5.74	5.66	4.87	4.58	3.54	3.10	18.16
Invalid pension	4.12	7.96	8.38	5.40	3.09	2.28	2.72	1.96	1.33	1.13	3.84
Veterans' Affairs pension	3.83	17.68	22.64	10.45	5.46	3.63	3.25	2.91	1.12	1.02	7.21
Unemployment benefit	5.48	11.92	22.33	13.51	7.49	5.67	3.49	3.87	2.95	3.25	8.01
Sole parent benefit	1.06	19.78	11.04	4.55	2.19	2.48	1.35	1.59	*	1.25	4.65
Family allowance	1.04	2.64	5.14	5.93	7.40	7.35	7.10	6.47	6.37	6.63	5.61
Other direct benefits	6.69	5.96	9.33	5.58	3.22	3.54	3.71	2.60	2.70	3.51	4.69
Total direct benefits	*73.33*	*117.72*	*118.71*	*56.77*	*34.59*	*30.60*	*26.49*	*23.98*	*19.17*	*19.89*	*52.18*
Gross Income	**85.16**	**147.03**	**198.80**	**278.15**	**349.73**	**427.99**	**517.70**	**619.01**	**757.19**	**1,156.80**	**453.60**
Direct tax	*0.30*	*2.43*	*7.53*	*32.20*	*52.53*	*75.99*	*104.63*	*134.01*	*175.99*	*331.06*	*91.60*
Disposable income	**84.86**	**144.59**	**191.27**	**245.95**	**297.20**	**352.00**	**413.07**	**485.01**	**581.19**	**825.73**	**362.01**
Indirect benefits:											
School education	4.21	12.36	21.56	26.17	27.21	30.58	31.33	31.91	31.28	32.07	24.88
Tertiary education	2.03	3.37	6.45	9.02	7.56	9.28	11.11	12.88	14.92	24.71	10.13
Other education benefits	0.46	1.15	2.10	2.55	2.83	3.16	3.37	3.55	3.72	4.44	2.73
Total education benefits	6.70	16.88	30.12	37.73	37.60	43.02	45.81	48.34	49.92	61.22	37.74
Hospital care	18.49	24.46	25.42	21.83	22.28	22.42	22.58	22.74	24.05	26.47	23.08
Medical clinics	4.79	7.16	8.24	7.65	8.27	8.17	8.25	8.22	8.56	9.47	7.88
Pharmaceuticals	3.23	4.54	4.06	1.71	1.34	1.30	1.20	1.13	1.10	1.16	2.08
Other health benefits	1.00	1.58	2.01	2.11	2.33	2.39	2.46	2.48	2.56	2.94	2.19
Total health benefits	27.52	37.74	39.73	33.30	34.22	34.27	34.49	34.56	36.27	40.05	35.22
Housing benefits	4.30	5.12	3.01	3.01	3.27	3.62	1.95	0.72	0.76	0.19	2.59
Social security and welfare benefits	13.83	15.02	13.14	6.76	4.86	4.58	3.96	3.76	3.06	3.23	7.22
Total indirect benefits	*52.34*	*74.76*	*86.00*	*80.81*	*79.94*	*85.50*	*86.21*	*87.38*	*90.00*	*104.69*	*82.78*
Disposal income plus indirect benefits	**137.21**	**219.36**	**277.28**	**326.76**	**377.15**	**437.50**	**499.28**	**572.39**	**671.19**	**930.42**	**444.79**
Indirect taxes by commodity group:											
Petrol and petroleum products	2.16	3.35	5.03	5.83	7.14	7.58	8.59	9.28	10.63	12.72	7.23
Tobacco	1.52	2.16	2.95	3.54	3.42	3.91	3.88	3.84	4.20	4.35	3.38
Alcohol	1.17	1.47	2.28	3.23	3.43	4.44	4.84	5.60	6.18	8.58	4.12
Ownership of dwellings	1.80	2.01	2.16	3.10	3.61	4.03	4.30	4.39	4.89	5.69	3.60
Other indirect taxes	5.43	8.14	11.44	14.04	16.40	19.78	22.80	24.59	30.60	40.97	19.41
Total indirect taxes	*12.07*	*17.14*	*23.86*	*29.73*	*34.00*	*39.74*	*44.40*	*47.70*	*56.48*	*72.31*	*37.74*
Final income	**125.13**	**202.22**	**253.42**	**297.03**	**343.15**	**397.76**	**454.87**	**524.69**	**614.71**	**858.11**	**407.05**
Total benefits	*125.67*	*192.48*	*204.72*	*137.58*	*114.53*	*116.11*	*112.69*	*111.36*	*109.17*	*124.58*	*134.96*
Total taxes	*12.37*	*19.57*	*31.39*	*61.93*	*86.53*	*115.73*	*149.04*	*181.70*	*232.48*	*403.38*	*129.34*

(a) Ten per cent groupings of the estimated population when households are ranked in ascending order according to each household's total gross weekly income.

AVERAGE WEEKLY HOUSEHOLD EXPENDITURE ON COMMODITIES AND SERVICES
AUSTRALIA, 1984



Distribution of Income

The effects of government benefits and taxes on household income

All households in Australia pay taxes to government, whether directly in the form of income tax or indirectly through taxes on goods and services purchased. Similarly, all households in Australia receive benefits from government, whether directly in the form of regular cash payments such as age pensions or indirectly in the form of a range of services which are provided to households either without charge or at less than their full cost to government. Using data from the 1984 Household Expenditure Survey, supplemented by data from other sources, the ABS undertook a study of the effects of government benefits and taxes on the distribution of income of households in 1984.

The methodological approach employed in this study is based on that used in similar studies conducted by the United Kingdom Central Statistical Office. The most that can be claimed for the approach is that it provides a useful framework within which a large body of information which is relevant to the assessment of the redistributive effects of transactions between households and governments can be drawn together. It is important to recognise that the estimates of the effects of government benefits and taxes on household income depend on the particular assumptions which have been made.

In the study, some major components of government outlays and revenues which affect households were allocated to the households which received the benefits or paid the taxes. The incidence of government benefits and taxes and their effects on average household income were then examined for various household groups.

To illustrate the effects of government benefits and taxes on household income, a series of income measures was calculated. The starting point of the analysis was *private income*: the total current weekly income of all members of the household before the deduction of taxes and excluding any government benefits. Private income includes income from employment, self-employment, investments and other non-government sources. Next, government direct benefits to persons, such as pensions and unemployment benefits, were added to private income to obtain *gross income*. Direct taxes were then deducted to obtain *disposable income*. Government indirect benefits for housing, education, health and social security and welfare were then added to give *disposable income plus indirect benefits*. Finally, indirect taxes paid were deducted to produce *final income*.

The following table shows the way in which the various income measures are related in the form of averages for all households and for two classes of households: those whose principal source of gross income was from private sources and those whose principal source of income was government pensions and benefits.

AVERAGE WEEKLY INCOME OF HOUSEHOLDS FOR VARIOUS INCOME MEASURES BY PRINCIPAL SOURCE OF GROSS INCOME OF THE HOUSEHOLD, 1984

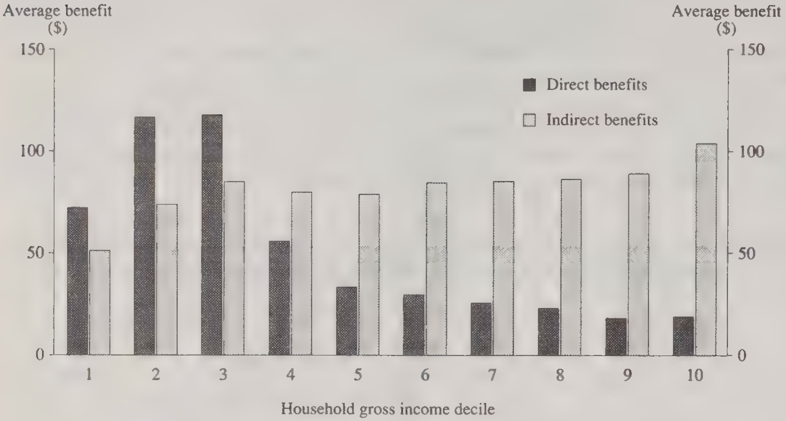
	Principal source of gross income		
	Private income	*Government pensions and benefits*	*All sources*
	—Average weekly value ($)—		
Private income	537.38	19.32	401.43
plus Government direct benefits	21.69	137.85	52.18
Gross income	559.08	157.17	453.60
less Direct tax	123.29	2.52	91.60
Disposable income	435.78	154.65	362.01
plus Indirect benefits	83.62	80.43	82.78
Disposable income plus indirect benefits	519.40	235.08	444.79
less Indirect taxes	*44.97*	*17.42*	*37.74*
Final income	474.43	217.66	407.05
Total benefits	*105.31*	*218.28*	*134.96*
Total taxes	*168.26*	*19.94*	*129.34*

In this study the value of benefits allocated to households totalled $35,365 million while the total tax revenue allocated was $33,892 million. Translated into average values per household the value of benefits allocated was $134.96 per week and the amount of total taxes allocated was $129.34 per week.

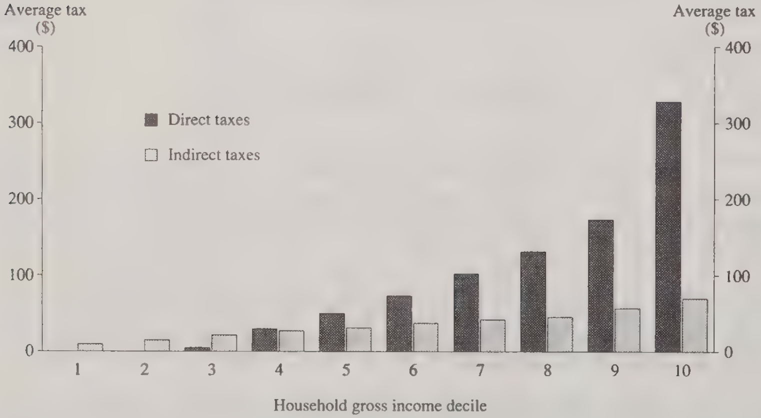
The fact that the total amount of benefits allocated did not differ greatly from the total amount of taxation revenue allocated has no particular significance, since both totals simply represent the aggregate of those components which could be readily allocated. It does, however, have the incidental effect of enabling the balance of benefits and taxes relating to particular household groups to be comprehended more readily as a broad measure of the net redistributive impact of those government activities which are included in the study.

The following diagrams illustrate the effect that government benefits and taxes have on household income when households are ranked according to their gross income.

AVERAGE WEEKLY BENEFITS PER HOUSEHOLD BY GROSS INCOME DECILE, 1984



AVERAGE WEEKLY TAXES PER HOUSEHOLD BY GROSS INCOME DECILE, 1984



Income Distribution Surveys

Surveys of income have been conducted by the ABS at irregular intervals. In the last such survey, conducted in the period September to December 1986, income was collected both on a last financial year basis, that is in respect of 1985–86, and on a current basis, that is at the time of interview.

As has been customary in such surveys, income was collected in respect of each of the following sources: wages or salaries; own business, trade or profession; government cash benefits; superannuation; interest, rent dividends; other sources. These were then aggregated to arrive at gross income.

The survey was designed to enable the production of estimates both for individuals and for groups of individuals such as income units, families and households. Preliminary and detailed final results of the survey were published in 1987, 1988 and 1989. The respective publications released are titled: *1986 Income Distribution Survey, Australia: Preliminary Results* (6545.0), *Persons with Earned Income* (6546.0) and *Income Units* (6523.0). Details of concepts, definitions, etc. employed in the survey and observations on the quality and reliability of the data can be found in these publications.

ALL INCOME UNITS: DECILE CLASSES, TYPE OF INCOME UNIT, GROSS INCOME SHARE AND MEAN GROSS WEEKLY INCOME, AUSTRALIA, SEPTEMBER–DECEMBER, 1986

	Married couple income units									
	With no dependent children		*With dependent children*		*One parent income units*		*One person income units*		*All income units*	
Decile class (a)	*Income share (per cent)*	*Mean weekly income ($)*	*Income share (per cent)*	*Mean weekly income ($)*	*Income share (per cent)*	*Mean weekly income ($)*	*Income share (per cent)*	*Mean weekly income ($)*	*Income share (per cent)*	*Mean weekly income ($)*
Lowest	3.0	136	2.5	156	2.5	71	2.8	69	1.9	77
2nd	3.3	180	4.8	294	6.0	141	3.5	101	2.9	120
3rd	4.2	207	6.2	378	6.0	154	4.3	110	4.3	174
4th	5.1	252	7.1	446	7.1	165	5.1	137	5.4	225
5th	6.8	339	8.5	513	7.1	179	7.3	191	7.2	293
6th	9.1	440	9.4	578	8.0	202	9.5	251	8.7	362
7th	11.4	559	10.8	656	10.1	244	11.7	306	10.9	442
8th	13.9	682	12.4	760	12.0	314	13.6	361	13.5	550
9th	17.0	834	14.8	907	15.7	385	16.4	437	17.2	706
Highest	26.1	1,288	23.6	1,447	25.5	646	26.0	678	28.1	1,150
Total	**100.0**	**491**	**100.0**	**614**	**100.0**	**251**	**100.0**	**264**	**100.0**	**410**
Median gross weekly income ($)	389		543		186		210		328	
Mean gross weekly income ($)	491		614		251		264		410	
Mean gross weekly earned income ($)	355		540		127		207		327	
Number ('000)	1,785.2		1,968.6		315.1		3,392.2		7,464.1	

(a) Ten per cent groupings of the estimated population when income recipients or income units are ranked in ascending order according to each income recipient's or income unit's total gross income.

FULL-YEAR, FULL-TIME WORKERS (a): MEAN GROSS ANNUAL EARNED INCOME BY EDUCATIONAL ATTAINMENT BY AGE BY SEX, AUSTRALIA, 1985–86

	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
		—'000—		—Mean gross annual earned income($)—		
With post-school qualifications—						
Degree	371.0	151.7	522.6	32,850	25,040	30,580
Certificate (non-trade)/ diploma	417.5	376.2	793.7	27,580	18,980	23,500
Trade certificate	986.1	42.4	1,028.4	22,070	16,830	21,850
Other	65.2	33.2	98.3	21,970	17,310	20,400
Total	*1,839.8*	*603.5*	*2,443.1*	*25,490*	*20,260*	*24,200*
Without post-school qualifications—						
Left school at age—						
18 or over	185.3	55.0	240.3	21,610	16,580	20,460
17	272.3	125.8	398.1	20,220	16,150	18,940
16	357.2	173.9	531.1	20,220	15,570	18,700
15 or 14	674.0	275.5	949.5	19,270	14,690	17,940
13 or under	140.9	35.3	176.3	18,890	13,260	17,760
Total	*1,629.7*	*665.5*	*2,295.3*	*19,870*	*15,270*	*18,540*
Total *(b)*	**3,471.5**	**1,271.3**	**4,742.8**	**22,850**	**17,640**	**21,450**

(a) Excludes 119,200 full-year, full-time workers whose earned income was zero. *(b)* May include a small number of persons who never attended school.

Welfare-related Surveys Conducted by the ABS

Disability and ageing

1981 Survey of Handicapped Persons

During February to May 1981 a survey was conducted throughout Australia to obtain information about the nature and extent of various disabilities and handicaps in the Australian community.

The Survey examined the needs of, and the kinds of problems experienced by, persons with different types of handicaps. The areas examined in respect of handicapped persons included causes, disabling conditions, services, aids, accommodation, employment, education, income, transport, recreation and institutionalised care.

The sample for the Survey consisted of two distinct parts. In the first part, a sample of 33,000 households was selected from all households in Australia and in the second part, a sample of 5,300 patients or residents was selected from 723 randomly selected health establishments throughout Australia.

Results of the Survey are published in *Handicapped Persons, Australia* (4343.0).

1988 Survey or Disability and Ageing

The Australian Bureau of Statistics conducted a survey throughout Australia in the period February–May 1988 to obtain information about the characteristics of disabled and aged people and their requirements for care. In common with the 1981 Survey of Handicapped Persons, the Survey comprised two parts. The first covered people living in a sample of households. The second covered residents and patients living in selected health establishments in Australia, for example, nursing homes and other aged persons' accommodation.

The Survey aimed to identify disabled and handicapped people and their abilities and requirements for help with a number of activities of personal and household daily living, for example showering/bathing and light housework. Data relating to handicapped and disabled people are directly comparable with the 1981 Survey of Handicapped Persons with respect to numbers, causes of handicap, disabling conditions, employment, education and income.

The Survey also collected data on the care requirements of non-disabled people aged sixty years or more for the household activities of daily living. A small amount of information was also requested from those people who live with a disabled person and who are the main providers of help to that person with the personal activities of daily living.

Final survey results are expected to be released in the second half of 1989.

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9

HEALTH

This chapter is primarily concerned with the activities of the Commonwealth relating to health. There is, however, government responsibility for health at the State and local levels. There are constitutional limits on the Commonwealth Government's role in the health care field, and the primary responsibility for planning and provision of health services is with the State and Territory governments.

At the national level, health services in Australia are administered by the Commonwealth Government. The Government appoints two Ministers to the Portfolio of Community Services and Health. The Minister for Community Services and Health exercises overall responsibility over the Commonwealth Department of Community Services and Health, represents the portfolio in Cabinet and has particular responsibility for Budget matters and major policy decisions. The Minister for Housing and Aged Care has responsibility for the development and administration of particular health matters, including the Pharmaceutical Benefits Scheme and Therapeutic Goods. The Commonwealth Government is primarily concerned with the formation of broad national policies, and influences policy making in health services through its financial arrangements with the State and Territory governments, through the provision of benefits and grants to organisations and individuals, and through the regulation of health insurance.

The direct provision of health services, broadly speaking, is the responsibility of the State governments. Each of the States and the Northern Territory has a Minister who is responsible to the government of his particular State or Territory for the administration of its health authorities. In some States, the responsibility for health services is shared by several authorities whilst in others, one authority is responsible for all these functions.

Health care is also delivered by local government, semi-voluntary agencies, and profit making non-governmental organisations.

ACT Community and Health Service — ACTC&HS

In addition to its national responsibilities, the Commonwealth Government, through the ACTC&HS, has special responsibility for health services in the Australian Capital Territory. The Service, a statutory authority, was formed on 1 July 1988 as part of the changed administrative arrangements for the ACT. The Service is an integration of the ACTC&HS Division of the former Department of Territories. It is primarily funded through Commonwealth appropriations and provides a full range of health, hospital and welfare services in the ACT.

Services provided include:

- Hospital services—the Service provides hospital in-patient and outpatient services which include medical, surgical, psychiatric, nursing and other professional support services. The Ambulance Service provides treatment and transport for emergencies and inter-hospital transfers.

- The major locations for providing these services are the two public hospitals, Royal Canberra Hospital and Woden Valley Hospital, the Mitchell Health Services and Supply Centre and the four ambulance stations.
- Community services—the Service provides environmental and public health services as well as regional services covering illness, family, or individual problems and financial hardships. Health care delivery facilities include health centres, child health clinics and home nursing services. Other community health services provided by the Service include health education, school dental and speech therapy services, and health and pharmaceutical inspection services. The Service also provides a range of programs to service the mental health needs of the community, and the special health needs of other groups in the community such as the elderly, the physically handicapped, the intellectually handicapped and those with alcohol or drug dependence.
- Other services—the Service provides juvenile justice facilities and other welfare and corrective services. The major locations providing these services are the community centres, Quamby Youth Centre, Belconnen Remand Centre, Jindalee Nursing Home and child day care centres.

At 30 June 1988, the ACT Health Authority, before its integration into the ACT Community and Health Service, had a staff of 3,607 full-time and 1,086 part-time employees.

Further information about the operations of the Service and the services it provides is contained in Service annual reports.

Medicare

Details of the health financing arrangements under the Medicare program introduced by the Commonwealth Government in February 1984 are available in *Year Book* No. 68.

Since the introduction of the Medicare program the income thresholds on which the levy is payable have been revised. No levy is payable by single people earning $8,980 per annum or less, or by married couples and sole parents with a combined income of $15,090 per annum or less, with a further $2,100 per annum allowed for each dependent child.

'Shading-in' arrangements apply in respect of persons with taxable incomes marginally above the threshold.

The levy was increased from 1 per cent to 1.25 per cent of taxable income on 1 December 1986.

Medicare benefits

The Health Insurance Act provides for a Medicare Benefits Schedule which lists medical services and the Schedule (standard) fee applicable in respect of each medical service. The Schedule covers services attracting Medicare benefits rendered by legally qualified medical practitioners, certain prescribed services rendered by approved dentists and optometrical consultations by participating optometrists. Up to 1985 Schedule fees were set and updated by independent fee tribunals appointed by the Government and in which the Australian Medical Association (AMA) participated: the Government has determined the increase in Schedule fees since 1986. Medical services in Australia are generally delivered by either private medical practitioners on a fee-for-service basis, or medical practitioners employed in hospitals.

Medicare benefits are payable at the rate of 85 per cent of the Schedule fee for out-of-hospital services with a maximum payment by the patient of $20 for each service where the Schedule fee is charged. Where a doctor charges above the Schedule fee, the patient is responsible for any amount in excess of the Schedule fee in addition to the 15 per cent/$20 'patient gap'.

For medical Services rendered in hospitals or day-hospital facilities to private in-patients, the level of Medicare benefit is 75 per cent of the Schedule fee for each item with no maximum patient gap. The private health insurance funds cover the remaining 25 per cent (i.e. up to the level of the Schedule fee) for insured patients.

Gap benefits are not payable for out-of-hospital medical services. However, where accumulated gap payments for these services exceed $150 in a year, further services attract Medicare benefits equal to 100 per cent of the Schedule fee.

Under Medicare, medical practitioners may choose to bill the Commonwealth directly rather than billing the patient. In so doing, they accept the Medicare benefit as full payment.

Fee-for-service rebates are paid at differential rates if a medical practitioner had been recognised by the Minister for Community Services and Health as a Specialist or Consultant Physician (or Psychiatrist) and the patient has been referred by another practitioner.

New arrangements were introduced on 1 August 1987 for the payment of Medicare benefits for pathology services. The revised arrangements included the Commonwealth Pathology Accreditation Scheme which was introduced to ensure quality of pathology services throughout Australia. The Principles of Accreditation incorporated the standards recognised by the National Pathology Accreditation Advisory Council.

Currently Australia has reciprocal health care agreements with the United Kingdom, New Zealand and Malta whereby Australian visitors to those countries, and from those countries to Australia, are entitled to access to the host countries public health system for immediately necessary medical and hospital treatment.

In 1987–88, $3,096 million was paid by the Health Insurance Commission for Medicare Benefits in respect of 135 million services. Summary statistics on benefits paid for medical services are provided below.

MEDICARE BENEFITS: NUMBER OF SERVICES, AMOUNT OF BENEFITS PAID AND BILLING SERVICES, STATES AND TERRITORIES, 1987–88

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*ACT*	*NT*	*O'seas*	*Aust.*
					—'000—					
Number of services	53,857.2	31,704.6	21,800.3	11,147.0	10,720.5	3,266.2	1,769.4	680.0	194.9	135,140.2
					—$ million—					
Benefits paid	1,229.5	734.3	492.9	263.6	242.2	71.5	44.0	13.7	3.9	3,095.6
					—per cent—					
Billing services—										
Direct billing	60.0	46.1	52.4	48.8	51.7	41.5	28.8	61.6	0	53.0
Lower than Schedule fee	3.5	7.6	7.6	4.0	5.7	11.5	4.6	2.2	36.2	5.6
Equal to Schedule fee	3.2	13.1	9.6	18.9	12.6	15.1	9.1	4.3	1.0	13.0
Greater than Schedule fee	23.3	33.1	30.4	28.3	30.0	31.9	57.6	31.9	62.9	28.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

MEDICARE BENEFITS: AMOUNT PAID BY BROAD SERVICE TYPE, STATES AND TERRITORIES, 1987–88
($ million)

Type of service	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*ACT*	*NT*	*O'seas*	*Aust.*
GP consultation	471.6	280.8	186.0	101.9	91.5	30.3	15.2	6.1	1.4	1,184.8
Specialist consultation	189.1	120.8	70.5	44.2	31.2	9.7	8.2	1.1	0.7	475.5
Obstetrics	16.4	12.6	5.8	3.6	4.3	1.4	1.1	0.4	0.1	45.7
Anaesthetics	28.7	21.3	11.8	7.5	6.8	2.1	1.3	0.3	0.1	79.7
Pathology	193.1	100.3	87.0	32.9	39.3	10.1	4.9	2.5	0.6	470.6
Diagnostic imaging	138.7	78.9	49.2	28.5	29.3	6.9	5.4	1.7	0.5	338.9
Operations	123.6	80.4	59.0	31.7	25.7	7.4	5.1	1.0	0.5	334.3
Optometry	24.8	16.0	10.5	5.5	5.9	2.0	0.9	0.5	0	66.0
Other	43.4	23.3	13.1	7.8	8.4	1.7	2.0	0.1	0.2	100.0
Total	**1,229.5**	**734.3**	**492.9**	**263.6**	**242.2**	**71.5**	**44.0**	**13.7**	**3.9**	**3,095.6**

Hospital care

From 1 February 1984, basic public hospital services have been provided free of charge. Under Medicare, in-patient accommodation and care in a shared ward by a doctor employed by a hospital are provided free of charge, together with a range of casualty out-patient services. The scheme does not cover hospital charges for private accommodation in a public hospital, private hospital treatment, nor care in a public hospital by a doctor of the patient's choice. It is possible however for persons to take out insurance with registered health benefits organisations to cover these situations and medical benefits are available for private medical practitioners' charges.

Patients who are accommodated in either private or public hospitals for continuous periods in excess of 35 days and who are, in essence, nursing home-type patients, are required to make a statutory non-insurable patient contribution in the same way that a patient in a nursing home does. For a private patient in a public hospital, health benefits paid by registered benefits organisations are reduced to the level of the standard nursing home benefit. However, because of the reduced fees charged by public hospitals, such patients are only liable for the amount of the statutory non-insurable patient contribution. In a private hospital, the benefits are reduced to $100 a day, less the amount of the patient contribution. Any charges by private hospitals in excess of available benefits plus the statutory patient contribution become the responsibility of the patient.

Where a patient's doctor considers that a patient has continuing need of acute care, the doctor may issue a certificate under section 3b of the Health Insurance Act to that effect, and the nursing home-type patient arrangements do not apply. The arrangements also provide for a review mechanism in the form of the Acute Care Advisory Committee which, when requested (e.g. by a private health fund) to do so, may review such certificates and recommend that they be varied or revoked.

Private hospitals

Coinciding with the introduction of Medicare on 1 February 1984, Commonwealth bed-day subsidies and health insurance benefits were paid according to a system of classifying private hospitals into three categories. The three categories of private hospitals were determined on the basis of the services and facilities provided. Those hospitals with more sophisticated services and facilities attracted higher levels of health insurance benefits and Commonwealth bed-day subsidies.

The States have always had primary responsibility for the planning and provision of health services and facilities within their respective boundaries. However, associated with private hospital categorisation, the Commonwealth also had a responsibility, in consultation with the States, for the approval and categorisation of private hospital facilities. Because of this overlap of responsibilities, the Commonwealth decided to discontinue its regulatory controls in the private hospital sector from 1 October 1986, leaving the States with the sole authority over such matters. Also, in the context of budgetary considerations, Commonwealth subsidisation of the private hospital sector through bed-day subsidies ceased from 1 October 1986.

Acting on the recommendations of a joint industry working party, comprised of representatives of the private hospital and health insurance industries and the Australian Medical Association, the Commonwealth approved a system of classifying patients in private hospitals for health insurance benefits purposes. The patient classification system was introduced on 1 March 1987 and replaced the private hospital categorisation arrangements. Patient classification more appropriately relates basic health insurance benefits more directly to the actual costs of providing hospital services necessary to the treatment of patients' conditions.

From 1 March 1987, three classes of private hospital patients were declared for health insurance benefits purposes. These are advanced surgical, surgical/obstetrical and 'other' patients. Differential levels of benefits are payable in relation to a patient's classification and step down periods (i.e. lengths of stay in hospitals) also apply to each classification. Advanced surgical patients, and surgical/obstetrical patients, are defined according to specified medical procedures as contained in the Medicare Benefits Schedule. From 1 October 1987, the patient classification arrangements were expanded to accommodate higher, distinct basic benefits for psychiatric and rehabilitation patients.

Pharmaceutical Benefits Scheme

The Pharmaceutical Benefits Scheme, established under the provisions of the National Health Act, provides a comprehensive range of drugs and medicinal preparations which may be prescribed by medical practitioners for persons receiving medical treatment in Australia. In addition, there is a limited range of antibiotic, antibacterial, analgesic and antifungal preparations which may be prescribed by dental practitioners for the treatment of patients. The drugs and medicines are supplied by an approved chemist upon presentation of a prescription from the patient's medical or dental practitioner, or by an approved hospital to patients receiving treatment at the hospital.

During 1987–88 patient contribution arrangements were as follows:

- *free of charge*—the holders of a Pensioner Health Benefits Card, Health Benefits Card, Dependant Treatment Entitlement Card or Service Pension Benefits Card and their dependants receive benefit items free of charge;
- *$2.50 per benefit item*—people in special need who hold a Health Care Card and their dependants, and those Social Security pensioners and Veterans' Affairs service pensioners who do not hold a PHB Card and their dependants, pay a contribution of $2.50 per benefit item;
- *$10 per benefit item*—all other people pay a contribution of $10 per benefit item.

At the same time, a scheme was introduced to provide protection for the chronically ill high drug user by placing a ceiling on the amount which could be paid by an individual or family for pharmaceutical benefits in a calendar year. Under the new arrangements, a person or family group who uses more than 25 pharmaceutical benefit prescriptions after the start of a calendar year qualifies for an entitlement to free pharmaceutical benefits for the remainder of that year.

In order to qualify for free pharmaceutical benefits under the 'safety net' arrangements, general or concessional patients may record each pharmaceutical benefit supplied on a prescription record form, obtainable from any pharmacy. After the supply of 25 prescriptions has been recorded, the form or forms may be presented to a pharmacy or any office of the Commonwealth Department of Community Services and Health for issue of a Pharmaceutical Benefits Entitlement Card conveying entitlement to free pharmaceutical benefits for the remainder of the year.

Under the Pharmaceutical Benefits Scheme the total cost, including patient contribution of prescriptions processed for payment, was $1,047.6 million in 1987–88. This figure does not include the cost of drugs supplied in certain psychiatric centres and geriatric centres or the cost of pharmaceutical benefits supplied through special arrangements, such as the Royal Flying Doctor Service (RFDS), Bush Nursing Centres and hormone treatment programs. As of 30 June 1988, arrangements for payments of some of these costs have been transferred to those States which were administering the services. The Commonwealth will continue to administer the RFDS and hormone treatment programs.

BENEFIT PRESCRIPTIONS AND COST OF MORE FREQUENTLY PRESCRIBED DRUG GROUPS, AUSTRALIA, 1987–88

	Benefit prescriptions		*Total cost of benefit prescriptions (a)*	
Drug group	*Number*	*Percentage of total*	*Amount*	*Percentage of total*
	'000	%	$'000	%
Non-steroidal anti-inflammatory drugs	9,327	9.3	92,298	8.8
Anti-asthmatics and antibronchitics	8,582	8.5	79,784	7.6
Benzodiazepines, sedatives and hypnotics	7,113	7.1	31,072	3.0
Diuretics	6,831	6.8	45,966	4.4
Beta-blockers	5,796	5.7	68,726	6.6
Penicillins	5,122	5.0	53,059	5.1
Antihypertensives	4,470	4.5	121,829	11.6
Anti-anginals	3,954	3.9	63,955	6.1
Oral contraceptives	3,478	3.4	37,605	3.6
Water, salts and electrolytes	3,412	3.4	19,841	1.9
Antidepressants	3,214	3.2	20,635	2.0
Antacids	2,548	2.5	13,752	1.3
Topical corticosteroids	2,263	2.2	11,971	1.1
Tetracyclines	2,181	2.2	17,618	1.7
Sulphonamides and urinary antiseptics	2,042	2.0	21,054	2.0
Other drug groups	30,568	30.3	348,464	33.2
Total	**100,901**	**100.0**	**1,047,629**	**100.0**

(a) Includes Patients' contributions. Excludes Government expenditure on pharmaceutical benefits provided through miscellaneous services.

Source: Commonwealth Department of Community Services and Health.

Summary of personal benefit payments

For an analysis by purpose and economic type of expenditure by all Commonwealth Government authorities *see* Chapter 24, Public Finance.

Most Commonwealth Government health benefits are financed through the National Welfare Fund and the Health Insurance Commission. The following table shows personal benefit payments by Commonwealth Authorities for 1986–87.

COMMONWEALTH AUTHORITIES: PERSONAL BENEFIT PAYMENTS—HEALTH, 1986–87
($ million)

	NSW (a)	*Vic.*	*Qld*	*SA (a)*	*WA*	*Tas.*	*Total*
Hospital and other institutional services and benefits	*311.4*	*236.1*	*101.4*	*69.9*	*64.2*	*14.1*	*797.1*
Nursing homes	302.1	227.0	98.8	68.2	63.5	13.7	773.3
Hospital benefits	9.3	9.1	2.6	1.7	0.7	0.4	23.8
Clinic and other non-institutional services and benefits	*1,256.0*	*714.2*	*473.9*	*261.7*	*231.9*	*70.1*	*3,007.8*
Clinic and other non-institutional services n.e.c.	12.0	7.7	5.2	1.7	3.0	1.1	30.7
Medical benefits *(b)*	1,244.0	706.5	468.7	260.0	228.9	69.0	2,977.1
Public health	3.2	0.5	3.6	2.9	3.2	0.7	14.1
Pharmaceuticals, medical aids and appliances	297.6	180.1	117.9	68.8	55.9	18.9	739.2
Total	**1,868.2**	**1,130.9**	**696.8**	**403.3**	**355.2**	**103.8**	**4,558.2**

(a) State totals for New South Wales and South Australia include expenditure on personal benefit payments to residents in the Australian Capital Territory and the Northern Territory respectively. *(b)* Excludes $4.5 million for payments made overseas.

Commonwealth Government Subsidies and Grants to States

Hospital funding grants

New State and Territory funding arrangements were introduced on 1 July 1988. The former Identified Health Grants and Medicare Compensation Grants were terminated on 30 June 1988.

The new Hospital Funding Grants, totalling $3,063 million to the States and Territories in 1988–89, provide $3,007 million for hospital and community health services, $36 million for incentives in the areas of post-acute and palliative care and day surgery procedures, $15 million towards hospital care for AIDS patients and $5 million to enable the development of a case mix based system as a management information system and potentially as a prospective payment system.

Hospital Funding Grants will operate in the first instance for the five year period commencing in 1988–89 and will be indexed each year to take account of age- and sex-weighted population changes, any increase in the number of AIDS patients as well as price changes.

Paramedical services

Commonwealth funding to participating States under the *States Grants (Paramedical Services) Act 1969* is to be incorporated in the Home and Community Care Program: *see* Chapter 8, Social Security and Welfare.

Commonwealth Government Subsidies and Grants to Organisations

Health program grants

Health program grants are authorised under Part IV of the Health Insurance Act. The scheme involves payments to approved organisations in respect of the costs incurred by those organisations in providing approved health services or an approved health service development project. The grants were first introduced in 1975 with the intention of establishing a scheme for funding a wide range of health services on other than a fee-for-service basis. The scheme underwent several modifications in later years to allow for the provision of charges to be imposed, where appropriate, for services rendered to privately insured patients.

Since 1 February 1984, there has been a return to the original concept of health program grants in that they now cover the net costs incurred by the organisations in respect of the approved health services, and no charges are raised for those services.

Funds appropriated for these grants amounted to $7.162 million in 1984–85, $8.086 million in 1985–86 and $11.951 million in 1986–87.

National Community Health Program — NCHP

The Commonwealth provides funding through the NCHP in order to promote community health-care principles by encouraging self-help and advocacy groups at the national level.

Forty-two projects are presently funded under the NCHP. The largest of these projects is the Family Medicine Program (FMP) of the Royal Australian College of General Practitioners, which provides vocational training for young doctors who intend to enter general practice. The trainees receive their training through attachments to participating private general practitioner practices and by attendance at educational events organised by the FMP.

The other national projects include national coordinating secretariats of voluntary non-profit organisations, health advocacy organisations and specific health-related projects which have national application.

Funds appropriated for this program amounted to $12.856 million in 1987–88.

Medicare grants for community health

The Medicare agreements, which commenced on 1 February 1984, were used as vehicles for delivering additional Commonwealth funds to the States and Territories in block grants for new or expanded services within their borders. These grants amounted to $19.263 million in 1985–86, $20.071 million in 1986–87 and $21.358 million in 1987–88.

National Health Promotion Program — NHPP

Under the NHPP the Commonwealth provides funding for projects which develop and promote effective strategies for health promotion and disease prevention, focussing on specific risk factors and different population groups.

Projects funded under the NHPP must be national in application and focus and be consistent with national health goals. Projects funded in 1987–88 included the Healthy Cities Project coordinated by the Australian Community Health Association, the Health Education and Lifestyle Project conducted by the Australian Council for Health, Physical Education and Recreation and several projects which focus on cholesterol levels and hypertension in the workplace.

Funds appropriated for this program amounted to $2.55 million which included $1 million for the 'Just One Shot' Measles Campaign.

Health for All Australians

Australian Health Ministers endorsed a report 'Health for All Australians' in March 1988, which set a series of national goals and targets for improving health and reducing inequalities in health status among population groups in Australia. The focus of the report is on prevention.

Bicentennial Public Health Program

Under the Bicentennial Public Health Program, the Government is providing $26 million over three years to strengthen public health and tropical health teaching and research in Australia.

The program has three components:

- grants to eight universities and one research institute (these grants have been extended to cover seven years and now total approximately $41.5 million);

- the expansion of the Australian Institute of Health;
- the creation of the National Health and Medical Research Council (NH&MRC) Public Health Research and Development Committee which allocates funds for research and awards fellowships.

Other grants and subsidies

The Commonwealth Government gives financial assistance to certain organisations concerned with public health. Examples of organisations included in this category are outlined below.

The Royal Flying Doctor Service

A non-profit organisation providing medical services in remote areas of Australia. It is distinct from, but coordinates with, the Aerial Medical Service which, while formerly operated by the Commonwealth Department of Community Services and Health, has been operated by the Northern Territory Government since 1 January 1979. The Royal Flying Doctor Service is financed mostly from donations and government contributions. For the year ended 30 June 1988 the Commonwealth Government paid grants totalling $7.25 million towards operational costs and assistance of $3.0 million towards an approved program of capital expenditure.

The Red Cross Blood Transfusion Service

This Service is conducted by the Australian Red Cross Society throughout Australia. The operating costs of the Service in the States and the Northern Territory are met by the State or Territory Government paying 60 per cent, the Society 5 per cent of net operating cost or 10 per cent of donations, whichever is the lesser, and the Commonwealth Government meeting the balance. Approved capital expenditure by the Service is shared on a dollar for dollar basis with the State and Northern Territory governments. Commonwealth Government expenditure for all States and Territories during 1987–88 was $18.567 million being $16.369 million for operating costs and $2.198 million for capital costs.

The National Heart Foundation of Australia

The Foundation is a voluntary organisation, supported almost entirely by public donations, established with the objective of reducing the toll of heart disease in Australia. It approaches this objective by programs sponsoring research in cardiovascular disease, community and professional education directed to prevention, treatment and rehabilitation of heart disease and community service programs including rehabilitation of heart patients, risk assessment clinics and surveys and documentation of various aspects of heart disease and treatment of heart disease in Australia. The Foundation's income in 1987 was $12.3 million of which $10.6 million was from public donations and bequests. Commonwealth, State and semi-government authorities made grants of $0.2 million for specific projects conducted by the Foundation. Since the inception of the Foundation, research has been a major function and a total of $3.8 million was expended in 1987 in grants to university departments, hospitals and research institutes and for fellowships tenable in Australia and overseas. It is notable however that with increasing opportunities for prevention and control of heart disease, the Foundation's education and community service activities are increasing significantly. In 1987 the expenditure on research, education and community service totalled $4.6 million.

The World Health Organization—WHO

WHO is a specialised agency of the United Nations having as its objective the attainment by all peoples of the highest level of health. Australia is assigned to the Western Pacific Region, the headquarters of which is at Manila, and is represented annually at both the World Health Assembly in Geneva and the Regional Committee Meeting in Manila. Australia's contribution to WHO for 1987 was $5.807 million.

The International Agency for Research on Cancer—IARC

The IARC was established in 1965 within the framework of the World Health Organization. The headquarters of the Agency are located in Lyon, France. The objectives and functions of the Agency are to provide for planning, promoting and developing research in all phases of the causation, treatment and prevention of cancer. Australia's contribution to the IARC for 1987 was $0.548 million.

National Health Services and Advisory Organisations

Australian Health Ministers' Conference and the Australian Health Ministers' Advisory Council

The Australian Health Ministers' Conference (AHMC) and its advisory body, the Australian Health Ministers' Advisory Council (AHMAC) provide a mechanism for Commonwealth, State and Territory Governments to discuss matters of mutual interest concerning health policy, services and programs. Neither the Conference nor the Council has statutory powers, and decisions are reached on the basis of consensus. Their constitution rests on the formal agreement by the Commonwealth, State and Territory governments of the membership and functions.

The AHMC comprises the Commonwealth, State and Territory Health Ministers, and the Commonwealth Minister responsible for Health in the ACT. Other Commonwealth Ministers may be invited to speak on items relevant to their portfolio. The New Zealand Health Minister may attend meetings as an observer.

AHMAC comprises the head and one other senior officer from the Commonwealth, State and Territory health authorities and the Department of Veterans' Affairs. AHMAC was established by the April 1986 AHMC to replace the Standing Committee of Health Ministers (SCOHM) and the Australian Health Services Council (AHSC).

AHMAC may establish standing committees to serve ongoing matters of concern to the Council and the Australian Health Ministers' Conference and ad hoc working parties or subcommittees to investigate and report on specific issues or aspects. The standing committees include the AIDS Task Force, the Commonwealth–State Advisory Committee on Nursing Issues, the Health Targets and Implementation Committee, the Subcommittee on Breast and Cervical Cancers and the Task Force on National Hospital Statistics.

Health services organisations

The Commonwealth Pathology Laboratory Service

This service provides clinical diagnostic and investigational facilities at laboratories situated in Albury, Bendigo, Cairns, Lismore, Rockhampton, Tamworth, Toowoomba and Townsville. Their primary role is to assist medical practitioners in the diagnosis of illness and disease and to provide facilities for investigations into public health and aspects of preventive medicine. During 1987–88, these laboratories carried out approximately 7.5 million examinations, tests and investigations in respect of 0.7 million patient requests.

The Commonwealth Serum Laboratories Commission—CSL

CSL produces pharmaceutical products for human and veterinary use and is one of Australia's foremost scientific institutes. The Commission's main function is to produce and sell prescribed pharmaceutical products used for therapeutic purposes and to ensure the supply of essential pharmaceutical products in accordance with defined national health needs. The Commission's functions also include research and development relating to many kinds of human and veterinary diseases covering the fields of bacteriology, biochemistry, immunology and virology. The Commission's laboratories and central administration are located at Parkville, Victoria, with storage and distribution facilities in all States.

For over sixty years, CSL has been Australia's chief supplier of biological medicines, insulins, vaccines, human blood fractions, diagnostic reagents and an increasing range of veterinary pharmaceutical products needed by Australia's sheep, cattle, pig and poultry industries. The CSL Act now allows CSL to produce, buy, import, supply, sell or export prescribed pharmaceutical products (either of a biological or non-biological nature).

The Australian Radiation Laboratory

The Laboratory is concerned with the development of national policy relating to radiation health and:

- undertakes research and development in the fields of ionising and non-ionising radiations which have implications for public and occupational health;
- formulates policy by developing codes of practice and by undertaking other regulatory, compliance, surveillance and advisory responsibilities at the national level with respect to public and occupational health aspects of radiation;
- maintains national standards of radiation exposure and radioactivity;
- undertakes research and provides advice in relation to the quality and use of radiopharmaceutical substances.

The National Acoustic Laboratories

The Laboratories undertake scientific investigations into hearing and problems associated with noise as it affects individuals, and advise Commonwealth Government departments and instrumentalities on hearing conservation and the reduction of noise. A free audiological service is provided for pensioners with medical benefit entitlements and their dependants, persons under 21, war widows, Social Security rehabilitees and Veterans' Affairs patients. During 1987–88 the number of appointments provided was 183,532 and the number of hearing aids fitted was 67,520.

The National Biological Standards Laboratory—NBSL

The NBSL is comprised of the Pharmaceutical Laboratories, the Biological Laboratories and the Medical Devices and Dental Products Branches of the Commonwealth Department of Community Services and Health. The Sections are generally organised along scientific disciplinary lines and include the Virology, Microbiology, Antibiotics, Pharmaceutical Chemistry, Pharmacology, Dental Materials and Medical Engineering Sections.

The NBSL monitors the quality, safety and efficacy of biological and pharmaceutical products and therapeutic devices available for use in Australia. Its major activities are analysing therapeutic goods for compliance with standards, giving advice on the adequacy of information provided to support marketing applications, implementing the Codes of Good Manufacturing Practice applicable to manufacturers of therapeutic goods, developing standards, providing education and training, maintaining a register of therapeutic goods, investigating problems and coordinating product recalls.

The Ultrasonic Institute

The Institute conducts research and provides advisory services on the use of ultrasonic radiation in the diagnosis and treatment of disease. The Institute is recognised as a world leader in its field.

Commonwealth Government Health Advisory Organisations

The National Health and Medical Research Council—NH&MRC

The NH&MRC advises the Commonwealth Government and State governments on matters of public health administration and the development of standards for food, pesticides, agricultural chemicals, water and air for consideration by the States for inclusion in their legislation. It also advises the Commonwealth Government and State governments on matters concerning the health of the public and on the merits of reputed cures or methods of treatment which are from time to time brought forward for recognition. The Council advises the Commonwealth Minister for Community Services and Health on medical research and on the application of funds from the Medical Research Endowment Fund which provides assistance to Commonwealth Government departments, State departments, universities, institutions and persons for the purposes of medical research and for the training of persons in medical research. The Commonwealth Government makes annual appropriations to the fund. Expenditure for 1987–88 was $64.365 million. The Commonwealth Government also appropriated $1.258 million to the newly established Public Health Research and Development Committee for disbursement to priority research areas. The secretariat for the Council and its Committees is provided by the Commonwealth Department of Community Services and Health and is located in Canberra.

The Australian Institute of Health—AIH

The AIH was established by Federal Cabinet in August 1984 and was made an independent statutory body in July 1987. It is the health research and statistics arm of the Commonwealth Community Services and Health portfolio, and also provides research and statistical support to the States and Territories through the Australian Health Ministers' Advisory Council (AHMAC). The Institute aims to contribute to improvements in the nation's health by:

- collecting and providing assistance in the production of health related statistics;
- conducting and promoting research into the health of the people of Australia;
- undertaking studies into the provision and effectiveness of health services and health technology;
- providing advice to the Minister on strategies for improving the health of the Australian people.

It is required to report to the Minister and Parliament every two years accordingly.

The AIH has given priority to the improvement of the national health data base. This includes developing a National Death Index, a National Cancer Statistics Clearing House, a National Nosology Reference Centre and national Aboriginal health statistics. It has undertaken a major study of differences in health in different subgroups of the population, and, in cooperation with the States and Territories, has established a National Injury Surveillance and Prevention system. Research studies are being undertaken into the provision and use of health services. These include investigations into hospital usage and costs, storage and wastage of medicines in households, medical workforce supply and demand, discretionary surgery usage and quality assurance. The Institute publishes information on national health expenditure, analyses of the major health workforce groups, and statistics on hospital and other health care facilities.

The Institute incorporates the Secretariat of the National Health Technology Advisory Panel (NHTAP) which undertakes the evaluation of new and existing health care technologies and is involved in the work of the mammography screening subcommittee of AHMAC. The Institute also supports the National Perinatal Statistics Unit at the University of Sydney and the Dental Statistics and Research Unit at the University of Adelaide.

The National Occupational Health and Safety Commission—NOHSC

The National Commission (known by its working title as *Worksafe Australia*) is a tripartite body comprising representatives of Commonwealth, State and Territory governments, and peak employee and employer bodies.

It is a statutory authority established by the Commonwealth Government to develop, facilitate and implement national occupational health and safety strategies and to seek the development of common approaches to occupational health and safety legislation.

NOHSC has specified six priority areas for immediate attention and towards which the resources of the organisation are being directed. These issues are occupational back pain, noise-induced hearing loss, chemicals, skin disorders, occupational cancer and mechanical equipment injuries.

The activities of the organisation include the following:

- the development of national standards and codes of practice;

- national statistical responsibilities in the field of occupational health and safety;
- multidisciplinary research (including epidemiology, biostatistics, work physiology, occupational psychology, ergonomics and toxicology);
- teaching responsibilities through a Master of Public Health course and several non-academic short courses;
- training and education by the offer of research grants and study awards, and by encouraging the inclusion of intrinsic training in occupational health in tertiary courses; and
- the collection and dissemination of information.

Individuals and groups with specialist knowledge or requirements in the field of occupational health and safety assist through their participation in various committees of the Commission.

The Australian Drug Evaluation Committee

The Committee makes medical and scientific evaluations of such goods for therapeutic use as the Minister for Community Services and Health refers to it for evaluation, and of other goods for therapeutic use which, in the opinion of the Committee, should be so evaluated. It advises the Minister for Community Services and Health as it considers necessary on matters relating to the importation into, and the distribution within, Australia of goods for therapeutic use that have been the subject of evaluation by the Committee. It has the powers to coopt and seek advice from specialist medical colleges and associations and from the medical and allied professions, drug manufacturers and other sources.

The Committee met on six occasions throughout 1987–88. Seventy-four applications for approval for general marketing of new drugs were considered, resulting in twenty-nine recommendations for approval, thirty-nine for rejection and six for deferral. There were a further twenty-three approvals for extensions of therapeutic indications or amended dosage regimens for drugs already on the market.

The Therapeutic Device Evaluation Committee—TDEC

The Committee became a statutory committee in December 1987. It makes medical and scientific evaluations of devices (including non-drug substances) for therapeutic use and it furnishes advice to the Minister of Community Services and Health on the importation, production and distribution of devices which have been the subject of evaluation. It has the power to form advisory panels to develop complex and detailed proposals for consideration.

The Committee met three times in 1987–88 and considered guidelines for evaluating Bedside Drug Infusion Systems, Intraocular Lenses, and Substantial Equivalence. It also considered the approach to be taken in assessing device materials (non-drug therapeutic substances); the latter formerly being undertaken by the Australian Drug Evaluation Committee. The TDEC is responsible for the oversight of the device evaluation program, which considered 36 submissions in 1987–88, and a device problem reporting program which received 151 reports, contributing to 55 product recalls, in the same period.

The Therapeutic Goods Committee

The Committee provides advice to the Minister regarding the standards applicable to goods for therapeutic use including the requirements for packaging and labelling of such goods. Members of the Committee are selected for their individual expertise in pharmaceutics, pharmaceutical chemistry, pharmacology, microbiology, virology, veterinary science, medical devices, the manufacture of pharmaceuticals and therapeutic devices and consumer affairs. The Committee replaces the Therapeutic Goods Standards Committee and the Therapeutic Goods Advisory Committee both of which have been abolished.

National Campaign Against Drug Abuse—NCADA

Australia's NCADA, which was launched in April 1985, is a comprehensive, integrated and ongoing campaign, combining the resources of all Australian governments and the community to minimise the harm caused to Australian society by the misuse of drugs, both licit and illicit. A Ministerial Council on Drug Strategy has been formed by the Commonwealth, State and Territory governments to establish, fund, maintain and evaluate the Campaign.

The Commonwealth will contribute $26.6 million in 1988–89, of which $16.8 million is allocated to the States and Territories who match it on a dollar-for-dollar basis, and $9.8 million to national programs and to locally based pilot and demonstration initiatives in the areas of prevention, treatment, early intervention, data management and research. During 1987–88, over 350 separate projects were funded under the Commonwealth–State cost-sharing arrangements. These projects cover such areas as education, training, residential and non-residential treatment, community development and consultancy, research, evaluation and monitoring.

The range of projects involved reflects the diversity of the drug abuse problem in Australia, and the recognition by NCADA of the special needs of groups within the community such as youth, prisoners, Aboriginal people and women.

Information, research and evaluation are central parts of the NCADA and activities have included:

- a national media/information campaign, 'The Drug Offensive'. This includes the second stage of the anti-heroin campaign which commenced in December 1987, and a national campaign on alcohol which was launched in March 1988;
- research under the Research into Drug Abuse Program. Since its inception in 1985, the Program has provided over $3.1 million in support of 67 projects;
- the establishment of two national centres for drug research. The Commonwealth in 1988–89 has allocated $1.2 million per annum for the funding of these centres. The Sydney-based centre is concentrating its work in the areas of drug treatment and rehabilitation. The Perth-based centre is concentrating on research into the prevention of drug abuse;
- the establishment of a National Drug Abuse Data System based on a network of State and Territory data collection agencies;
- support of a major project to improve the teaching of drug and alcohol issues in the undergraduate medical curricula. Funding totalling $0.55 million has been offered to the ten University Medical Schools by the Department of Employment, Education and Training to implement this project.

Another aspect of the NCADA strategy is aimed at reducing the supply of drugs. A considerable effort has been made in recent years to strengthen the capabilities of Australian federal law enforcement agencies (i.e. the Australian Federal Police (AFP), National Crime Authority (NCA) and the relevant areas of the Australian Customs Service (ACS)). High priority is placed on the investigation of drug trafficking and organised crime. Additional funds have been invested in improved equipment (e.g. computers) and trained personnel.

In addition, the Commonwealth Government has recently enacted a package of legislation which provides a range of new powers to law enforcement agencies which will assist in the investigation and recovery of the proceeds of organised crime, including drug trafficking. This approach is consistent with the policy of targetting those who control finance and benefit from major crime, particularly drug trafficking.

The international aspects of drug trafficking are also being addressed. The experience to date with tracing assets has highlighted the problems that arise where assets are transferred overseas or change hands before a suspect is convicted, thus making it very difficult for law enforcement agencies to recover the profits of criminal activity. The legislative package enables Australia to grant and request mutual assistance in criminal matters and extradition, usually subject to a treaty with the country concerned. The Mutual Assistance Treaties will enhance the ability of Australian and overseas law enforcement agencies to assist each other in the investigation and prosecution of drug crimes and will, in most cases, allow for the tracing, freezing, confiscating and the recovery of the proceeds of drug trafficking.

Many of the Extradition and Mutual Assistance Treaties arrangements are now signed and in force. Others will soon be in force. The remainder are yet to be signed and are in various stages of negotiation.

In 1987–88, the final year of the first triennium, approval was given by the Government and the Ministerial Council on Drug Strategy for a further three year program.

An evaluation of NCADA is being undertaken by an independent Task Force. It has examined all aspects of the Campaign and will critically assess current activities and suggest options for the future to improve the effectiveness of the campaign.

Communicable Diseases

Quarantine

The *Quarantine Act 1908* is administered jointly by the Commonwealth Departments of Community Services and Health and Primary Industries and Energy and provides for the taking of measures to prevent the introduction or spread of diseases affecting humans, animals and plants.

Human quarantine

The masters of all ships and aircraft arriving in Australia from overseas are required to notify medical officers acting on behalf of the Commonwealth Department of Community Services and Health of all cases of illness on board at the time of arrival. Passengers or crew members who are believed to be suffering from a quarantinable illness may be examined by Quarantine Medical Officers located at all ports of entry.

The main concern of examining officers is the detection of quarantinable diseases including cholera, yellow fever, plague, typhus fever and viral haemorrhagic fevers. These diseases are not endemic to Australia and it is of great importance to prevent their entry. Sufferers or suspected sufferers may be isolated to prevent the possible spread of the disease.

A valid International Certificate of Vaccination is required of travellers to Australia over one year of age who have been in *yellow fever* infected areas within the past 6 days.

All passengers, whether they arrive by sea or air, are required to give their intended place of residence in Australia so that they may be traced if a case of disease occurs among the passengers on the ship or aircraft by which they travelled to Australia.

Isolation. Under the Quarantine Act, airline and shipping operators are responsible for the expenses of isolation of all travellers who disembark from their aircraft or ship and who fail to meet Australia's vaccination requirements.

Animal quarantine

The Department of Primary Industries and Energy, in consultation with the States and Australia's agricultural and livestock groups, seeks to satisfy the need for animal derived goods and to provide improved genetic material for Australia's livestock industries, while ensuring the maximum practical protection against the entry of exotic livestock diseases.

Importation of animals is restricted to certain species from designated overseas countries whose diseases status and pre-entry quarantine facilities meet Australia's stringent requirements. With few exceptions all imported animals are required to serve a period in quarantine on arrival.

Animal quarantine stations are located at most capital cities. A high security animal quarantine station on the Cocos (Keeling) Islands provides the means whereby the safe importation of a wide range of commercial livestock is facilitated.

Measures to prevent the entry of exotic diseases are also applied through the rigorous screening of applications to import biological materials and animal products and through inspection and treatment procedures on arrival.

Plant quarantine

Australia is free of numerous plant pests and diseases that occur elsewhere in the world. The importation into Australia of plant material is therefore subject to strict quarantine control.

The Department of Primary Industries and Energy has responsibility, in consultation with the States and agricultural and plant groups, for administering these controls. Some materials are admitted only under certain conditions while others are prohibited altogether. However, the facilitation of safe importation is considered to be the best available means of reducing pest and disease risk involved in illegal importation.

The general objective is to keep out of the country any pest or disease which could cause serious economic losses to Australia's agriculture, horticulture or forests. Measures to prevent the entry of unwanted exotic plant pests and diseases involve careful screening of applications to import plant material and inspection and treatment procedures on arrival.

Notifiable diseases

Although State and Territory health authorities are responsible for the prevention and control of infectious diseases within their areas of jurisdiction, certain powers and responsibility may be delegated to local authorities within each State. These usually involve such activities as personal health services, environmental sanitation and local communicable disease control.

The Commonwealth Department of Community Services and Health receives notification figures from the States and Territories on a monthly basis which are published in *Communicable Diseases Intelligence*. The national totals for the year are published in the annual report of the Department.

The following table shows, by State and Territory, the number of cases notified in 1987, for those diseases which are notifiable in all States and Territories. The table does not include diseases which are notifiable only in certain States or Territories. Factors such as the availability of medical and diagnostic services, varying degrees of attention to disease notification, and the enforcement and follow-up of notifications by health authorities, affect both the completeness and the comparability of the figures between States and from year to year.

NOTIFIABLE DISEASES (a), NUMBER OF CASES NOTIFIED, 1987

Disease	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Acquired immune deficiency syndrome (AIDS)	221	70	21	9	10	—	1	3	335
Amoebiasis	12	3	15	17	3	—	1	7	58
Ankylostomiasis	1	—	1	34	21	—	—	—	57
Arbovirus infection	84	3	996	2	—	—	—	—	1,085
Brucellosis	3	—	7	1	—	—	—	1	12
Diphtheria	1	—	—	—	—	—	31	—	32
Gonorrhoea	875	633	999	546	1,078	44	764	40	4,979
Hepatitis A (infectious)	180	72	82	145	137	9	86	4	715
Hepatitis B (serum)	417	276	350	76	408	18	32	28	1,605
Hydatid disease	8	1	1	3	1	3	—	—	17
Leprosy	10	3	2	—	7	—	8	1	31
Leptospirosis	19	25	69	4	6	10	—	—	133
Malaria	89	95	268	45	23	4	23	27	574
Ornithosis	—	2	—	8	1	2	—	—	13
Pertussis (whooping cough)	43	21	—	61	148	—	17	1	291
Q-Fever	150	3	179	18	4	—	1	—	355
Salmonella infections	835	116	666	342	342	160	251	27	2,739
Shigella infections	109	29	82	61	127	2	176	—	586
Syphilis	1,271	90	570	102	262	2	880	13	3,190
Tetanus	1	—	2	1	1	—	—	—	5
Tuberculosis (all forms)	—	247	176	75	117	17	34	20	686
Typhoid fever	21	12	3	2	2	3	1	3	47
Typhus (all forms)	2	—	6	—	—	1	—	—	9

(a) There were no cases of anthrax, cholera, plague, poliomyelitis, smallpox or yellow fever.

NOTIFIABLE DISEASES, NUMBER OF CASES NOTIFIED: AUSTRALIA

Disease	*1983*	*1984*	*1985*	*1986*	*1987*
Acquired immune deficiency syndrome (AIDS)	6	42	113	223	335
Amoebiasis	57	46	87	54	58
Ankylostomiasis	88	75	43	40	57
Arbovirus infection	33	1,577	660	1,414	1,085
Brucellosis	16	15	22	12	12
Diphtheria	1	—	17	44	32
Gonorrhoea	10,646	8,894	7,605	6,585	4,979
Hepatitis A (infectious)	985	674	848	1,685	715
Hepatitis B (serum)	944	1,559	1,645	1,766	1,605
Hydatid disease	10	9	14	13	17
Leprosy	62	28	38	27	31
Leptospirosis	242	227	185	179	133
Malaria	571	640	421	696	574
Ornithosis	19	42	17	43	13
Pertussis (whooping cough)	332	261	587	601	291
Poliomyelitis	—	—	—	1	—
Q-Fever *(a)*	208	262	202	367	355
Salmonella infections	2,989	2,092	2,668	2,494	2,739
Shigella infections	567	420	734	833	586
Syphilis	3,556	3,323	3,523	3,594	3,190
Tetanus	10	7	11	5	5
Tuberculosis (all forms)	1,219	1,299	1,088	1,041	686
Typhoid fever	22	50	31	45	47
Typhus (all forms)	21	8	10	11	9

(a) Not notifiable in all States and Territories until 1986.

Source: Commonwealth Department of Community Services and Health

Immunisation campaigns

Immunisation is recommended for all Australian children as a protection against childhood diseases such as poliomyelitis, diphtheria, measles, mumps, tetanus and whooping cough. Immunisation programs are implemented in all States and Territories of Australia. The childhood immunisation schedule, as recommended by the National Health and Medicine Research Council, is available from the Commonwealth Department of Community Services and Health.

Rubella immunisation is routinely offered to all females between their 10th and 15th birthdays through the School Girl Rubella Immunisation Program. Rubella immunisation is also recommended for all non-immune females of child bearing age.

Measles immunisation is currently promoted through the National Campaign Against Measles. This Campaign aims to increase community awareness of the potential seriousness of the disease and to encourage measles vaccination with the ultimate goal of eradicating measles in Australia.

Hepatitis B vaccine is currently offered to neonates born to mothers belonging to community groups in which the carrier rate for Hepatitis B is estimated to exceed 5 per cent.

Acquired Immune Deficiency Syndrome—AIDS

Australian governments have put in place a range of education, prevention and research programs directed at minimising the spread of AIDS in Australia.

These strategies are coordinated at the national level by the Commonwealth Department of Community Services and Health. The AIDS Policy and Program Administration Branch has the responsibility for coordinating and evaluating community AIDS projects, assessing the funding necessary for these initiatives, and undertaking liaison with a wide range of Australian and overseas agencies. In addition the Department closely monitors medical and scientific developments in relation to the disease. It also provides executive support for national AIDS Committees which have been established to consider and advise on all aspects of AIDS.

These Committees include:

- the Australian National Council on AIDS (ANCA), established in March 1988 to combine the functions of the former AIDS Task Force and NACAIDS, to advise the Commonwealth Minister for Community Services and Health on all aspects of AIDS;
- the National AIDS Forum, also established in March 1988, to ensure that ANCA and the Minister maintain close communication with, and receive advice from, individuals and organisations involved in the fight against AIDS;
- the Parliamentary Liaison Group on AIDS, established to bring together Federal parliamentarians to enable them to keep abreast of AIDS issues and to provide advice on community attitudes to the disease;
- the Intergovernmental Committee on AIDS, established to bring together the States and the Commonwealth to discuss AIDS policy and financial matters.

In 1987–88 the Commonwealth Government made available over $21 million for the fight against AIDS. This expenditure was divided between the National AIDS Program ($11 million) and the AIDS Matched Funding Program ($10 million).

Initiatives under the National AIDS Program included research, the national AIDS education campaign, grants to community-based organisations, exchange of information both within Australia and internationally and support of national AIDS advisory committees.

During 1987–88, the research activities of the Special Units on AIDS Virology and on AIDS Epidemiology and Clinical Research continued, and a number of grants were awarded to both individuals and groups for biomedical and behavioural research into AIDS.

Funding was also provided for testing carried out by the National Reference Laboratory and the development and funding of blood screening kits by the Commonwealth Serum Laboratories.

Brochures and posters, as well as radio and television commercials, were produced as part of the education campaign. Specific materials were developed for youth, intravenous drug users and ethnic and Aboriginal communities. These activities were reinforced by grants to a wide range of community organisations for AIDS education projects. Australia has received international recognition for its innovative use of community organisations as peer group educators.

On the international front, Australia hosted the WHO Inter-regional Ministerial Conference on AIDS, and also provided assistance to countries in the Western Pacific Region. Australia will contribute a total of $2 million in grants to the WHO Global Program on AIDS over the next three financial years. Educational material on AIDS prevention was also produced and distributed to international travellers.

Under the matched funding program, the Commonwealth has continued assistance to maintain the safety of our blood supply by supporting the screening of blood transfusion services throughout Australia. Clinical trials and evaluation of the drug Azidothymidine (AZT) have also been financed along with non-hospital treatment and support services and further education grants to community groups.

REPORTED AIDS CASES TO 30 JUNE 1988

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Number of cases—									
Males	577	174	56	21	37	2	2	11	880
Females	23	3	4	1	2	1	—	—	34
Persons	600	177	60	22	39	3	2	11	914
Known deaths—									
Number	331	67	37	10	17	2	1	5	470
Per cent of cases	55.2	37.9	61.7	45.5	43.6	66.7	50.0	45.5	51.4

Source: Commonwealth Department of Community Services and Health.

REPORTED AIDS CASES TO 30 JUNE 1988 BY TRANSMISSION CATEGORY

	Cases	
Transmission category	*Number*	*Per cent*
Homo/Bisexual men	802	87.7
Intravenous drug users	6	0.7
Homo/Bisexual drug users	24	2.6
Blood transfusion recipients	49	5.4
Persons with haemophilia	12	1.3
Heterosexual transmission	8	0.9
Others	13	1.4
Total	**914**	**100.0**

Source: Commonwealth Department of Community Services and Health.

Hospitals

Repatriation hospitals

The Department of Veterans' Affairs administers the only national hospital system in Australia, consisting of six acute-care Repatriation hospitals (one in each State), three auxiliary hospitals, and the Anzac Hostel in Brighton, Victoria.

A broad range of in-patient and out-patient services is available for the care and treatment of eligible veterans and their dependants. Patients from the general community may also receive treatment at Repatriation hospitals provided bed capacity is available after the needs of entitled veterans have been met and the hospital facilities are appropriate to the treatment required.

The Department of Veterans' Affairs has fostered the development of rationalised treatment arrangements with State health authorities to avoid the unnecessary duplication of hospital facilities and services. Repatriation General Hospitals (RGHs) are affiliated with a university and learned colleges for the education of medical and allied health professional staff.

Veterans may also receive treatment in non-departmental public and private hospitals and nursing homes at the Department's expense in certain circumstances. Entitled patients with psychiatric conditions requiring custodial care are, by agreement with the State governments, accommodated at the expense of the Department in mental hospitals administered by State authorities.

Details of patients, staff and expenditure on Repatriation institutions and other medical services are given in Chapter 8, Social Security and Welfare.

Mental health institutions

The presentation of meaningful statistics of mental health services has become increasingly difficult because of changes in recent years in the institutions and services for the care of mental patients. The emphasis has shifted from institutions for care of patients certified insane to a range of mental health services provided for in-patients and out-patients at psychiatric hospitals, admission and reception centres, day hospitals, out-patient clinics, training centres, homes for the mentally retarded and geriatric patients, psychiatric units in general hospitals, and the like. Statistics relating to mental health institutions are available from relevant agencies in most States.

Hospital statistics

A major factor in the cost of health care in Australia is hospital treatment of patients. Attempts to measure the number of in-patients treated and bed-days involved for each disease or injury have been going on for some years, but as coverage is incomplete it is not possible to present national statistics. Figures for New South Wales, Victoria and Queensland however, are published in the ABS publications *Hospital and Nursing Home Inpatients* (4306.1), *Public Hospital Morbidity* (4301.2) and *Hospital Morbidity* (4303.3) respectively. Statistics for South Australia, Western Australia, the Northern Territory and the Australian Capital Territory are available from the relevant State and Territory health authorities.

Employment Injuries

Annual statistics on employment injuries are collected and published by most ABS State Offices. However, these statistics rely upon administrative by-product data generated under the differing provisions of workers' compensation legislation in each State. Legislative differences, coverage and reporting deficiencies of the by-product source data and the absence of comparable data for the Commonwealth employee sector have to date prevented the production of national employment injuries statistics.

The collection of statistics on occupational health and safety have undergone significant change following the Commonwealth Government's establishment of the National Occupational Health and Safety Commission (Worksafe Australia). This body is responsible for the facilitation and coordination of action, in collaboration with unions, business and State governments, aimed at improving working conditions and reducing the incidence and severity of injury and illness in the workplace. The overall objectives of Worksafe Australia include plans to develop and implement improved systems for the recording and collection of statistical and other information. To this end, Worksafe Australia released a report 'National Data Set for Compensation-Based Statistics, April 1987' which proposed the collection of a standardised set of data items with associated concepts, classifications, etc. The recommendations contained in the report have, in principle, been accepted by the relevant authorities concerned and are expected to be incorporated into the State and Territory workers' compensation systems from 1988–89.

Deaths

Information relating to crude death rates and life expectancy is contained in Chapter 6, Demography (Vital Statistics).

Causes of death and perinatal deaths

Causes of death in Australia are classified according to the Ninth Revision of the International Classification of Diseases (ICD) produced by the World Health Organization (WHO). The statistics in the table below show the number of deaths registered during 1987, classified to broad groupings of causes of death. More detailed statistics are contained in *Causes of Death, Australia* (3303.0).

The major causes of death in the community in 1987 were diseases of the circulatory system (accounting for 47.5 per cent), neoplasms (24.3 per cent), diseases of the respiratory system (7.2 per cent) and accidents, poisonings and violence (6.9 per cent). Infectious diseases have caused few deaths in Australia in recent years, largely as a result of quarantine activities, immunisation campaigns and similar measures. In 1987, only 0.5 per cent of all deaths were due to such diseases.

The relative importance of groups of causes of death varies with age. Diseases of the circulatory system and neoplasms are predominant in middle and old age. Accidents, particularly those involving motor vehicles, are the primary cause of death in childhood and early adulthood. The majority of infant deaths (54.8 per cent in 1987) occur within 28 days after birth (*see* table on perinatal deaths within this chapter).

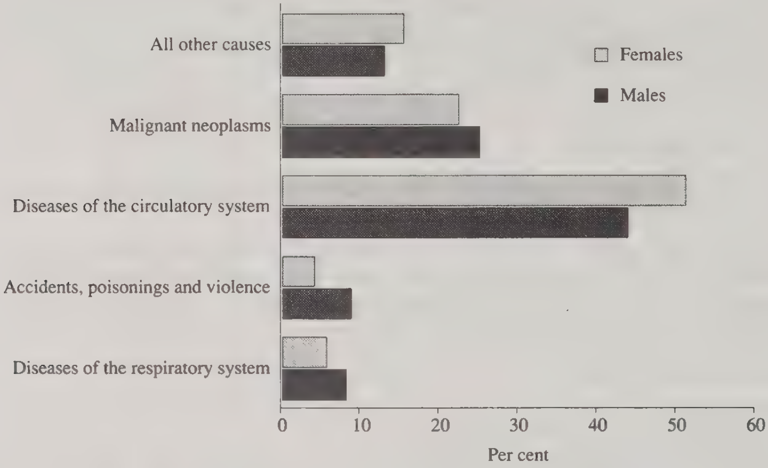
CAUSES OF DEATH IN EACH AGE GROUP, AUSTRALIA, 1987

	Age group (years)									
Causes of death	*Under one*	*1–14*	*15–24*	*25–34*	*35–44*	*45–54*	*55–64*	*65–74*	*75 and over*	*Total (a)*
					NUMBER					
Infectious and parasitic diseases	20	27	20	28	37	37	72	136	267	644
Neoplasms	13	128	137	362	980	2,365	6,029	8,763	9,780	28,557
Endocrine, nutritional and metabolic diseases and immunity disorders	18	36	29	67	135	147	347	656	1,359	2,794
Diseases of the nervous system and sense organs	41	66	71	58	81	85	215	411	950	1,978
Diseases of the circulatory system	7	22	60	191	632	1,986	6,014	13,492	33,262	55,678
Diseases of the respiratory system	39	50	66	69	119	239	978	2,345	4,585	8,491
Diseases of the digestive system	4	4	13	58	157	334	623	872	1,946	4,013
Congenital anomalies	578	91	42	28	12	18	26	18	4	817
All other diseases *(b)*	817	16	99	166	92	143	351	799	2,990	5,473
Signs, symptoms and ill-defined conditions	522	20	19	21	23	20	26	27	126	806
Accidents, poisonings and violence	57	468	1,784	1,361	1,033	713	734	690	1,224	8,070
All causes	**2,116**	**928**	**2,340**	**2,409**	**3,301**	**6,087**	**15,415**	**28,209**	**56,493**	**117,321**
					RATE *(c)*					
Infectious and parasitic diseases	8	1	1	1	2	2	5	13	40	4
Neoplasms	5	4	5	14	42	146	410	815	1,468	176
Endocrine, nutritional and metabolic diseases and immunity disorders	7	1	1	3	6	9	24	61	204	17
Diseases of the nervous system and sense organs	17	2	3	2	3	5	15	38	143	12
Diseases of the circulatory system	3	1	2	7	27	123	409	1,254	4,993	342
Diseases of the respiratory system	16	1	2	3	5	15	67	218	688	52
Diseases of the digestive system	2	—	—	2	7	21	42	81	292	25
Congenital anomalies	237	3	2	1	1	1	2	2	1	5
All other diseases *(b)*	335	—	4	6	4	9	24	74	449	34
Signs, symptoms and ill-defined conditions	214	1	1	1	1	1	2	3	19	5
Accidents, poisonings and violence	23	14	66	51	44	44	50	64	184	50
All causes	**867**	**27**	**86**	**90**	**140**	**376**	**1,049**	**2,623**	**8,480**	**721**
					PERCENTAGE *(d)*					
Infectious and parasitic diseases	0.9	2.9	0.9	1.2	1.1	0.6	0.5	0.5	0.5	0.5
Neoplasms	0.6	13.8	5.9	15.0	29.7	38.9	39.1	31.1	17.3	24.3
Endocrine, nutritional and metabolic diseases and immunity disorders	0.9	3.9	1.2	2.8	4.1	2.4	2.3	2.3	2.4	2.4
Diseases of the nervous system and sense organs	1.9	7.1	3.0	2.4	2.5	1.4	1.4	1.5	1.7	1.7
Diseases of the circulatory system	0.3	2.4	2.6	7.9	19.1	32.6	39.0	47.8	58.9	47.5
Diseases of the respiratory system	1.8	5.4	2.8	2.9	3.6	3.9	6.3	8.3	8.1	7.2
Diseases of the digestive system	0.2	0.4	0.6	2.4	4.8	5.5	4.0	3.1	3.4	3.4
Congenital anomalies	27.3	9.8	1.8	1.2	0.4	0.3	0.2	0.1	—	0.7
All other diseases *(b)*	38.6	1.7	4.2	6.9	2.8	2.3	2.3	2.8	5.3	4.7
Signs, symptoms and ill-defined conditions	24.7	2.2	0.8	0.9	0.7	0.3	0.2	0.1	0.2	0.7
Accidents, poisonings and violence	2.7	50.4	76.2	56.5	31.3	11.7	4.8	2.4	2.2	6.9
All causes	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Total includes 23 deaths where age is not known. *(b)* Includes 816 deaths from conditions originating in the perinatal period and 1,724 deaths from diseases of the genito-urinary system. *(c)* Rates are per 100,000 of population at risk, except for children under one year of age which are per 100,000 live births registered. *(d)* Percentage of all deaths within each age group.

As well as differing by age, the relative significance of certain causes of death also varies by sex, as illustrated below.

ALL DEATHS: PERCENTAGE DISTRIBUTION BY CAUSE, AUSTRALIA, 1987



Suicides

A range of statistics relating to deaths by suicide in Australia was published by the ABS in *Suicides, Australia, 1961–1981 (Including historical series 1881–1981)* (3309.0). Statistics for later years are available on request.

Perinatal deaths

Since deaths within the first 28 days of life (neonatal deaths) are mainly due to conditions originating before or during birth, and the same conditions can cause fetal death (stillbirth), special tabulations are prepared combining the two. These are termed 'perinatal deaths'. The statistical definition of perinatal deaths in Australia was amended in 1979 from that previously used, in accordance with a recommendation of the Ninth Revision Conference (1975) of the World Health Organization 'that national perinatal statistics should include all fetuses and infants delivered weighing at least 500 grams (or, when birth-weight is unavailable, the corresponding gestational age (22 weeks) or body length (25 cm crown–heel)), whether alive or dead'. The table below incorporates a further recommendation of the Conference in that it shows the number of fetal, neonatal and total perinatal deaths in Australia classified by both the main condition in the fetus/infant and the main condition in the mother.

The perinatal death rate for Australia fell from 11.48 per 1,000 total births in 1986 to 10.56 in 1987.

Of the conditions in the child, the two main groups responsible for perinatal deaths were *Hypoxia, birth asphyxia and other respiratory conditions* (34.5 per cent of the total) and *Congenital anomalies* (23.8 per cent). Thirty-eight per cent of all perinatal deaths did not mention any condition in the mother as contributing to the death. Of those deaths where maternal conditions were reported, 47.8 per cent were reported as being due to *Complications of placenta, cord and membranes.*

PERINATAL DEATHS BY CAUSE, AUSTRALIA, 1987

	Number of deaths			*Rate*		
Cause of death	*Fetal*	*Neonatal*	*Perinatal*	*Fetal (a)*	*Neonatal (b)*	*Perinatal (a)*
Conditions in fetus/infant—						
Slow fetal growth, fetal malnutrition and immaturity	130	156	286	0.53	0.64	1.17
Birth trauma	2	22	24	0.01	0.09	0.10
Hypoxia, birth asphyxia and other respiratory conditions	585	310	895	2.38	1.27	3.65
Fetal and neonatal haemorrhage	49	60	109	0.20	0.25	0.44
Haemolytic disease of fetus and newborn	8	3	11	0.03	0.01	0.04
Other conditions originating in the perinatal period	472	101	573	1.92	0.41	2.34
Congenital anomalies	182	435	617	0.74	1.78	2.52
Infectious and parasitic diseases	2	2	4	0.01	0.01	0.02
All other causes	2	70	72	0.01	0.29	0.29
Conditions in mother—						
Maternal conditions which may be unrelated to present pregnancy	195	106	301	0.79	0.43	1.23
Maternal complications of pregnancy	149	316	465	0.61	1.30	1.90
Complications of placenta, cord and membranes	611	161	772	2.49	0.66	3.15
Other complications of labour and delivery	25	52	77	0.10	0.21	0.31
No maternal condition reported	452	524	976	1.84	2.15	3.98
All causes—						
1987	**1,432**	**1,159**	**2,591**	**5.84**	**4.75**	**10.56**
1986	1,585	1,227	2,812	6.47	5.04	11.48
1985	1,518	1,416	2,934	6.10	5.73	11.79
1984	1,593	1,204	2,797	6.76	5.15	11.87
1983	1,619	1,349	2,968	6.63	5.56	12.20
1982	1,705	1,529	3,234	7.06	6.38	13.39

(a) Per 1,000 births registered (live births and stillbirths) weighing 500 grams or more at birth. *(b)* Per 1,000 live births registered weighing 500 grams or more at birth.

Cremations

CREMATIONS, AUSTRALIA

	1985		*1986*		*1987*		
State/Territory	*Number of cremations (a) (b)*	*Number of deaths*	*Number of cremations (a) (b)*	*Number of deaths*	*Number of crematoria (b)*	*Number of cremations (a)*	*Number of deaths*
NSW	23,108	44,044	22,210	42,036	18	23,062	42,189
Vic.	12,747	31,257	12,457	30,062	5	12,720	31,549
Qld	8,849	18,760	8,682	17,962	10	9,034	18,861
SA	4,879	10,543	5,003	10,377	2	4,737	10,531
WA	4,876	8,863	5,226	9,315	3	5,021	8,880
Tas.	1,634	3,659	1,509	3,435	2	1,592	3,637
NT	—	651	—	671	—	—	676
ACT	722	1,031	805	1,123	1	829	998
Australia	**56,815**	**118,808**	**55,892**	**114,981**	**41**	**56,995**	**117,321**

(a) Cremations are not necessarily carried out in the State or Territory where the death was registered. *(b)* At 31 December.
Source: Services and Investment Ltd.

Health-related Surveys Conducted by the ABS

Australian Health Surveys

The last Australian Health Survey was conducted throughout the twelve month period February 1983 to January 1984. The main objective of the Survey was to obtain information about the health of Australians and their use of and need for various health-related services and facilities. It is the second national survey of its kind to be conducted by the ABS; the first was conducted during 1977–78. It is planned to conduct a third national health survey in 1989–90.

The approach adopted to collect health information in the 1983 survey was to ascertain whether any of a range of health-related actions was taken during the reference period and to record the various reasons for which each action was taken. The actions covered included episodes in hospital; consultations with doctors; dental consultations; consultations with other health professionals; consumption or use of medications; days of reduced activity; and, days away from school or work.

The survey aimed to identify wherever possible the specific illness or injury for which the action was taken. However, some persons may have taken a health-related action for which no specific illness or injury could be identified or for reasons other than illness or injury, such as pregnancy supervision, immunisation, contraception etc. Therefore reasons identified as leading to a health-related action were classified into two broad groups: illness conditions and 'other reasons for action'.

In addition to the reasons for taking a health-related action, further information was obtained about the actions themselves e.g. whether surgery undergone in hospital, type of treatment received during a consultation with doctor or a dental consultation, number of times a particular action was taken during the reference period, whether actions such as use of medication or reduced activity were advised by a doctor etc. Information was also collected on illnesses and injuries experienced for which no action was taken. Summary results of the survey are published in *Australian Health Survey 1983* (4311.0); more detailed results are published in *Illness Conditions Experienced* (4356.0); and *Health Related Actions taken by Australians* (4358.0). A sample file on magnetic tape containing unit record data from the survey is also available. For further information *see Information Paper Australian Health Survey, 1983 Sample File on Magnetic Tape* (4324.0).

Health Insurance Surveys

These surveys have been conducted for the years 1979–84, 1986 and 1988. The 1984 survey covered employed wage and salary earners in capital cities only.

The 1988 survey sought information on levels of private health insurance cover in the Australian community. Results are published in *Health Insurance Survey, Australia, June 1988* (4335.0).

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10

EDUCATION

State and Commonwealth Government Responsibilities in Education

The governments of the six Australian States and the Northern Territory have the major responsibility for education, including the administration and substantial funding of primary, secondary and technical and further education. The State Governments administer their own systems of primary, secondary and technical and further education through government departments responsible to State Ministers. In Queensland, Tasmania and the Northern Territory a single Education Department is responsible for these three levels of education. In New South Wales, Victoria, Western Australia and South Australia, there is a separate body responsible for technical and further education.

The Commonwealth Government is directly responsible for education services in the Australian Capital Territory, administered through an education authority, and for services to Norfolk Island, Christmas Island and the Cocos (Keeling) Islands. The Commonwealth Government provides supplementary finance to the States, and is responsible for the total funding of universities and colleges of advanced education. Apart from its financial role, the Commonwealth is involved in initiating and coordinating policy and in maintaining a national perspective.

Detailed information on the education systems of the States may be found in the respective State *Year Books*. Chapter 27 of this *Year Book* provides details of the situation in the Territories.

Administrative Structure of Education at the National Level

As mentioned above, the Commonwealth Government has direct responsibility for education only in the Australian Capital Territory and the external Territories under the auspices of the Minister for the Arts and Territories. The Commonwealth Government, however, has special responsibilities for Aboriginals and for migrants, as well as the power to provide assistance for students. Moreover, the Commonwealth Government is responsible for international relations in education. In July 1987 the Commonwealth Department of Education was merged with the Commonwealth Department of Employment and Industrial Relations, the Department of Science and the Office of Youth Affairs to become the Department of Employment, Education and Training. The education responsibilities entail grants to schools, student assistance, overseas students, awards and exchanges, tertiary education, language policy, educational research and statistics, publications, Aboriginal education, multicultural education, Asian and women's studies, and education and the arts. The Department liaises with the media and community groups and produces a range of publications relating to education in Australia. Selected publications are listed at the end of this chapter.

The Australian Constitution empowers the Commonwealth Government to make grants to the States and to place conditions upon such grants.

The *National Board of Employment, Education and Training (NBEET)* was established under the *Employment, Education and Training Act 1988*. Proclaimed on 1 July 1988 it is the mechanism for providing coordinated and independent advice to the Government on employment, education, training and research in the context of the Government's broad social, economic and resource policies.

In establishing the Board the Government abolished the Commonwealth Schools Commission and the Commonwealth Tertiary Education Commission and transferred responsibility for program delivery, previously undertaken by the Commissions, to the Department of Employment, Education and Training. The Board provides for input from providers of education and training, and from business, industry and union organisations, as well as interested bodies in the community. It is assisted by four Councils.

- The *Schools Council a*dvises on the Commonwealth's policies and programs relating to schools, including the general development of primary and secondary education.
- The *Higher Education Council* advises on the general development of higher education in Australia, priorities and arrangements for the funding of higher education institutions and overseas marketing of Australian higher education products.
- The *Employment and Skills Formation Council* advises on technical and further education, employment and skills formation policies, programs and services, and the promotion of effective training through business and industry.
- The *Australian Research Council's* functions are to recommend on payments of research grants and to provide advice to the Board on national research priorities and coordination of research policy.

A *Commonwealth–State Consultative Committ*ee has also been established to advise on State and Territory priorities and to provide a forum for the early resolution of significant Commonwealth–State issues in relevant areas.

In addition to the NBEET arrangements, the Commonwealth Government has also made new advisory arrangements in a number of specific areas including women, Aboriginals, and in language policy and multi-cultural education.

- A *Women's Employment, Education and Training Advisory Group* has been formed to ensure appropriate consideration of issues relating to women's access and participation in employment, education and training, and to enhance links within the portfolio.
- The *National Aboriginal Education Committee (NAEC)* continues to be the principal adviser to the Minister for Employment, Education and Training and the Commonwealth Government on all matters concerning Aboriginal education pending the establishment of the Aboriginal and Torres Strait Islander Commission. The NAEC has responsibility for providing advice on the educational needs of Aboriginal and Torres Strait Islander people and appropriate methods of meeting those needs.
- The *Australian Advisory Council on Languages and Multicultural Education* has also been established to advise and assist the Government with policy and implementation matters and to provide a forum for discussion on needs and priorities.

Commonwealth Government education authorities also function as coordinating agencies for joint activity by the States and Territories in a number of fields. For example, the Australian Council on Tertiary Awards (ACTA), seeks, in consultation with State coordinating bodies, to establish consistency in awards in advanced education and TAFE by establishing, maintaining and publishing a register of such awards.

A number of bodies at the national level have an important coordinating, planning or funding role.

- The *Australian Education Council (AEC)* membership is made up of State and Territory Ministers for Education, and usually meets annually as a consultative body to consider matters of mutual interest and generally to facilitate the exchange of information and the coordination of common programs. It is supported by a Standing Committee including the Permanent Heads of Education in each State and Territory and the Secretary of the Commonwealth Department of Employment, Education and Training.
- The *Conference of the Directors-General of Education* normally meets twice each year. Matters discussed and decisions reached at the Conference have a direct influence in each State and Territory on such matters as pre-service and in-service education of teachers, school staffing, curricula, special education, building programs, administrative procedures and the extent of uniformity and diversity between education systems. Under the auspices of the Conference of the Directors-General of Education, regular meetings of senior specialist personnel are held.
- The *Australian Council for Educational Research (ACER)* is an independent national research organisation. The Council is funded by annual grants from each of the State and Northern Territory Governments and the Commonwealth Government, as well as from its own activities. The Council is involved in its own and contract research in cooperation with education systems and plays a central role in the areas of educational measurement and evaluation as well as research into learning and teaching and in the social context of education. ACER acts as the national centre for the program of international surveys of student achievement. Authority for ACER's policy rests with its governing council.
- The *TAFE National Centre for Research and Development Ltd* was established in 1980 and is a company limited by guarantee. The main sources of funding are the Commonwealth Government (50 per cent) and the States and Territories (on a per capita basis). Initially involved in curriculum development issues, the Centre's general research thrust is now aimed towards industries' requirements of TAFE, common skills across crafts, multi-skilling, skill formation and retraining. The National TAFE Clearing House within the Centre provides a service disseminating information on research and development activities within TAFE in Australia.

There are also a number of non-government organisations which have coordinating roles in education at the national level. These include the National Catholic Education Commission, the National Council for Independent Schools, the Australian Vice-Chancellors' Committee, the Australian Committee of Directors and Principals of Colleges of Advanced Education, the Conference of Directors of TAFE and the Australian High School Principals' Association.

New Developments in Education

The Commonwealth Government is considering the role of school-level education in the current context of far-reaching social and economic adjustment in Australia.

Schools are the starting point of an integrated education and training structure, and the basis for a highly skilled, adaptive and productive workforce. Individuals have the right to knowledge and skills to equip them for life.

While States have primary responsibility for the education of young people, the Commonwealth has played a major role in addressing national priorities for schools.

The development of a national perspective is essential—there must be a shared commitment by all, from Governments to community and business bodies to individuals. Government schools must provide the best possible education with the resources at hand. Non-government schools will also be asked to participate in the national effort.

The nation must continue to build on the excellent results already achieved in education.

The curriculum in schools must be appropriate to contemporary social and economic needs. A national curriculum framework is required which emphasises these contemporary needs, complemented by a common approach to assessment, and the appropriate education of teachers.

There is a need to increase the proportion of students completing Year 12 and the transfer rate to post-secondary education and training. This can only be done if there is detailed knowledge of variations in retention rates (e.g. by socio-economic groups). Aid must be extended to disadvantaged groups.

To achieve a national perspective in schooling and to strengthen Australia's schools there must be:

- a mechanism for cooperative undertakings
- the removal of unnecessary differences in school systems
- the development of integrated post-compulsory education and training
- links between schools, other education authorities, the labour market, and the community.

Pre-school Education

All States and Territories except one have a policy of making pre-school education universal for children in the years prior to school entry. A majority of the States and Territories have made considerable progress towards this goal. Most pre-schools are conducted on a sessional basis (i.e. sessions of two to three hours for two to five days per week). Pre-school programs generally favour the free play approach with emphasis on children's social and emotional development through creative activities. Parents often contribute by assisting at some sessions or by the purchase of play materials and educational resources. Attendance fees are not usually charged in those States where pre-schools are government-run, but in others, fees may be payable to private or voluntary organisations.

Primary and Secondary Education

Compulsory education

School attendance is compulsory throughout Australia between the ages of 6 and 15 years (16 years in Tasmania). Each State or Territory has its own specific requirements. The majority of children commence primary school at about 5 years of age, except in Western Australia, where they start at 6 years. Primary schooling generally begins with a preparatory or kindergarten year, followed by 12 grades to complete a full secondary course of study. While the final two years of schooling fall outside the compulsory stage of education, over two-thirds of students remain at school until Year 11 and over half remain until Year 12.

Non-government schools

All children between the prescribed ages must attend either a government school or some other recognised educational institution. While the majority of Australian children attend government schools, about one in four attend non-government schools at some stage of their school life. In the last few years, enrolments in the non-government sector have increased to 808,141 in 1987, i.e. 27 per cent of all school enrolments. Non-government schools operate under conditions determined by government authorities, usually registration boards, in each State and Territory. These conditions require that minimum education standards are met and that the schools have satisfactory premises. The majority of non-government schools are Catholic and there is a Catholic Education Commission in each State and at the national level. Most other non-government schools are under the auspices of, or run by, other religious denominations. The capacity of the Commonwealth Government to assist with the cost of educating children in denominational schools throughout Australia was upheld by the High Court in 1981.

Funding of schools

Primary and secondary education is free in government schools in all States and Territories. Fees for the hire of text books and other school equipment, however, may be charged, particularly in secondary schools. Most State governments provide financial assistance to parents under specified conditions for educational expenses. Assistance includes various types of scholarships, bursaries, transport and boarding allowances, many of which are intended to assist low-income families. The Commonwealth Government also provides a number of schemes of assistance to facilitate access to education. An estimated 144,000 secondary students aged 16 and over from low income families will receive assistance in 1988 under AUSTUDY, which has absorbed the former Secondary Allowances Scheme (SAS) and is described briefly in a later section.

The government assists selected students to undertake Master's and PhD courses through the Post-graduate Awards Scheme and also provides living allowances for migrants in full-time English skills courses at colleges of technical and further education.

Major responsibility for funding government schools lies with State governments which provide about 90 per cent of schools' running costs. The Commonwealth contribution represents about 10 per cent. The Commonwealth is the major source of public funding for non-government schools, providing about 65 per cent against the States' 35 per cent.

In 1985 the Commonwealth introduced a funding plan which provides stability and long term security, by means of significant increases to both sectors, over an eight year period to 1992. Grants for the second four years, 1989–1992, were included in legislation introduced at the end of 1988.

Following the introduction of the funding plan in 1985, the Commonwealth Government negotiated resource agreements with all State government and non-government school system authorities. These made available the increases in general recurrent grants and directed them to improving education outcomes within priority areas, by means of agreed projects.

School organisation and operation

Primary schooling provides a general elementary program lasting for 7 or 8 years until Years 6 or 7. Students enter secondary schools at Year 7 in some State systems and at Year 8 in others. Secondary education is generally comprehensive and co-educational. Most students attend schools reasonably near to their homes. Usually primary and secondary schools are separate institutions, but in some country areas there are area or central schools which provide both forms of schooling. Non-government schools follow a similar pattern, but a significant though declining proportion are single sex institutions. In Tasmania and the Australian Capital Territory, attendance for the final two years of government schooling is at separate secondary colleges.

Generally, schools in Australia have a considerable degree of autonomy. Most State departments have established regional administrations which are responsible for matters such as planning school buildings and deploying staff while a central curriculum unit provides general guidelines on course planning. In general, individual schools determine teaching and learning approaches within the guidelines and offer options within resources available and the attitudes and interests of students. Some systems encourage school-based curriculum development and, in the case of the Australian Capital Territory, school-based assessment in place of external examinations. While schools usually have a parents' association, there has been encouragement of greater community participation in general decision making at school level in some systems through parent representation on school councils and boards.

Specialist services and programs provided in schools include educational or vocational counselling by a permanent or visiting teacher, English as a Second Language program by specialist teachers (especially in schools with significant numbers of children from non-English speaking backgrounds), special programs designed to assist Aboriginal school children (including the widespread use of Aboriginal teachers' aides and bilingual education programs in communities where the children's first language is an Aboriginal language), a variety of programs for gifted and talented children, and remedial assistance for children with learning difficulties.

Primary education

In the lower primary years the main emphasis is on the development of basic language and literacy skills, simple arithmetic, moral and social education, health training and some creative activities.

In the upper primary years there is development of the skills learned in the earlier years. English, mathematics, social studies, science, music, art and craft, physical education and health are studied. There are also optional subjects such as religious instruction and, in some schools, foreign and community languages and instrumental music.

Students in Australian primary schools usually have only one teacher for all subjects, and are promoted each year on the basis of completing the previous year, rather than on achievement. In schools where open plan learning styles have been adopted, the method of team teaching (more than one teacher to a class) and multi-age grouping of students is often practised.

Secondary education

In some systems, the first one or two years of secondary school consist of a general program which is followed by all students, although there may be some electives. In later years a basic core of subjects is retained with students being able to select additional optional subjects. In other systems, students select options from the beginning of secondary school.

The core subjects in all systems are English, mathematics, science and, usually, a humanities or social science subject. Optional subjects may include, for example, a foreign language, a further humanities or social science subject, commerce, art, crafts, music, home economics, a manual arts subject, agriculture, physical education or health education. Some schools offer optional courses in subjects such as consumer education, conversational foreign languages, shorthand, typing, road safety, drama and leisure-time activities.

In senior secondary years, a wider range of options is available in the larger schools and there is an increasing trend towards encouraging individual schools to develop courses suited to the needs and interests of their students, subject to accreditation and moderation procedures.

In the Northern Territory, two Aboriginal residential colleges assist Aboriginals to participate in secondary education.

Students in Australian secondary schools generally have different teachers for each separate subject area, though, like primary schools, variations may occur where open planned or more flexible methods have been adopted. Promotion is, again, generally chronological, but students may be grouped according to ability after an initial period in unstreamed classes.

Examinations and assessment at each level are carried out by individual schools except Year 12 in the systems which have retained external examinations at Year 12 level. Students attaining the minimum school leaving age may leave school and seek employment, or enrol in a vocationally oriented course in a TAFE institution or a private business college. For many TAFE courses, completion of Year 10 of secondary school is a minimum entry requirement. For those continuing to the end of secondary school (Year 12), opportunities for further study are available in TAFE institutions, universities, colleges of advanced education and other post-school institutions. The latter include non-government teachers colleges and a few single purpose institutions such as the Australian Film, Television and Radio School, the Australian Maritime College and the National Institute of Dramatic Art.

Students' eligibility for entry to universities and colleges of advanced education is assessed during, or at the end of, the final two years of secondary schooling. Five States and the Northern Territory use different combinations of school assessment and public examinations. In Queensland and the Australian Capital Territory eligibility to enter higher education is determined from moderated and standardised school assessments. Several education systems are currently reviewing their senior secondary school assessment procedures.

Other schooling arrangements

Children may be exempted from the requirement of compulsory attendance if they live too far from a school or suffer a physical disability. These children usually receive correspondence tuition. Special schools are available in larger centres for socially, physically and mentally handicapped children in cases where they are not catered for in special or regular classes in ordinary schools.

In addition to correspondence tuition there are provisions for children in isolated areas. Schools of the Air operate in New South Wales, South Australia, Queensland, Western Australia and the Northern Territory.

The Remote Area Program for Aborigines (RAPA) is designed to provide post primary age students (12–15 years) in remote communities with an extended and improved range of course options emphasising vocational skills and courses relevant to community development.

Schooling for the children of Aboriginal groups in remote areas of the Northern Territory is conducted by Aboriginal teaching assistants supported by visiting teachers from established schools. The Scheme for the Placement of Teachers in Aboriginal Schools aims to improve the quality of teaching in schools with high Aboriginal enrolments and to increase Aboriginal community involvement in teacher selection.

Special education is provided by State governments and non-government authorities in specialist schools, in special classes or units in regular schools or by withdrawal from regular classes for periods of intensive assistance by special staff. In all States and particularly in New South Wales, Queensland and Victoria, parents have formed voluntary organisations to establish additional schools catering for their children's special needs. The Commonwealth Government provides funds to State authorities to assist in the upgrading of special education facilities.

Boarding facilities are available at some non-government schools mainly in the larger towns and cities. A small number of government schools, in particular those catering for groups such as Aboriginals, have residential hostels close by.

SCHOOLS, STUDENTS AND TEACHING STAFF BY CATEGORY OF SCHOOL (AND NON-GOVERNMENT AFFILIATION), AUSTRALIA, 1987

	Government schools	*Non-government schools*				*All schools*
		Anglican	*Catholic*	*Other*	*Total (a)*	
Number of schools	7,575	112	1,719	673	2,504	10,079
Number of students—						
Males	1,128,722	40,082	292,884	71,757	404,723	1,533,445
Females	1,068,020	34,272	292,282	76,864	403,418	1,471,438
Persons	**2,196,742**	**74,354**	**585,166**	**148,621**	**808,141**	**3,004,883**
Number of teaching staff *(b)*—						
Males	62,148	2,559	11,470	4,384	18,413	80,560
Females	86,825	2,855	22,027	6,248	31,130	117,955
Persons	**148,972**	**5,414**	**33,497**	**10,632**	**49,543**	**198,516**

(a) Includes special schools administered by government authorities other than the State Departments of Education in Victoria and Western Australia. *(b)* Full-time teaching staff plus full-time equivalents of part-time teaching staff.

STUDENTS BY CATEGORY OF SCHOOL AND SEX, AUSTRALIA

	1982 (a)	*1983 (a)*	*1984*	*1985*	*1986*	*1987*
GOVERNMENT SCHOOLS						
Males	1,171,506	1,173,036	1,162,979	1,147,561	1,134,704	1,128,722
Females	1,111,459	1,107,986	1,097,572	1,083,272	1,073,097	1,068,020
Persons	*2,282,965*	*2,281,022*	*2,260,551*	*2,230,833*	*2,207,801*	*2,196,742*
NON-GOVERNMENT SCHOOLS						
Males	355,964	368,321	379,652	389,385	397,705	404,723
Females	355,718	366,463	377,400	385,951	395,883	403,418
Persons	*711,682*	*734,784*	*757,052*	*775,336*	*793,588*	*808,141*
SCHOOLS						
Males	*(a)*	*(a)*	1,542,631	1,536,946	1,532,409	1,533,445
Females	*(a)*	*(a)*	1,474,972	1,469,223	1,468,980	1,471,438
Persons	*(a)*	*(a)*	**3,017,603**	**3,006,169**	**3,001,389**	**3,004,883**

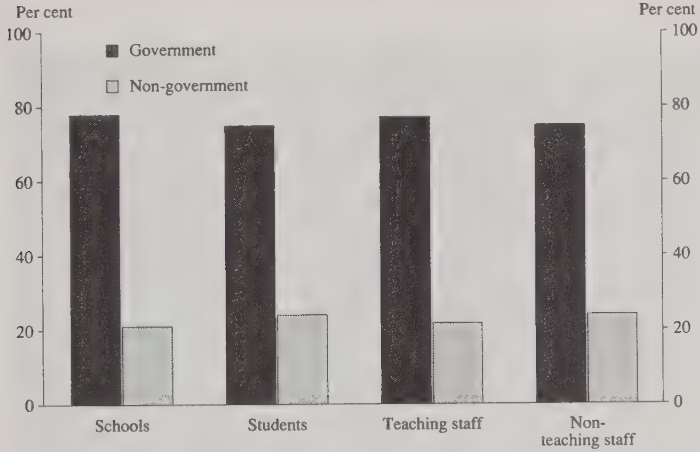
(a) The government and non-government school sectors have not been totalled for 1982 and 1983 as the two sectors vary in scope and coverage for those years. In addition, care should be exercised when comparing data in this publication with that prior to 1982 and 1984 for the government and non-government series respectively.

NUMBER OF FULL-TIME STUDENTS BY CATEGORY OF SCHOOL (AND NON-GOVERNMENT AFFILIATION), SEX AND LEVEL/YEAR OF EDUCATION, AUSTRALIA

Level /Year of education	*Government schools*	*Non-government schools (a)*				*All schools*		
		Anglican	*Catholic*	*Other*	*Total*	*Males*	*Females*	*Persons*
			1986					
Primary—								
Pre-year 1 *(b)*	124,417	1,756	36,448	5,827	44,031	86,361	82,087	168,448
Year 1	180,110	2,048	46,375	7,478	55,901	122,178	113,833	236,011
Year 2	177,382	2,086	45,936	7,296	55,318	119,499	113,201	232,700
Year 3	176,011	2,511	45,856	7,416	55,783	118,729	113,065	231,794
Year 4	177,111	2,778	45,819	7,556	56,153	119,518	113,746	233,264
Year 5	179,480	3,536	47,236	8,252	59,024	122,159	116,345	238,504
Year 6	184,491	4,172	48,879	8,909	61,960	126,406	120,045	246,451
Year 7 *(c)*	70,818	1,524	14,354	3,259	19,137	46,296	43,659	89,955
Ungraded	9,997	10	201	1,323	1,534	6,954	4,577	11,531
Total primary	*1,279,817*	*20,421*	*331,104*	*57,316*	*408,841*	*868,100*	*820,558*	*1,688,658*
Secondary—								
Year 7 *(d)*	114,638	6,293	35,405	9,746	51,444	85,251	80,831	166,082
Year 8	189,799	9,156	50,653	15,601	75,410	135,901	129,308	265,209
Year 9	200,966	9,673	50,493	15,953	76,119	141,132	135,953	277,085
Year 10	189,773	9,522	49,219	15,442	74,183	133,074	130,882	263,956
Year 11	124,392	8,975	36,060	13,354	58,389	90,000	92,781	182,781
Year 12	82,515	7,534	27,311	10,752	45,597	61,038	67,074	128,112
Ungraded	5,608	19	207	398	624	3,691	2,541	6,232
Total secondary	*907,691*	*51,172*	*249,348*	*81,246*	*381,766*	*650,087*	*639,370*	*1,289,457*
Special *(e)*—								
Primary	5,568	15	244	532	791	3,922	2,437	6,359
Secondary	3,020	16	259	472	747	2,303	1,464	3,767
Not identifiable as primary or secondary	11,705	—	68	1,375	1,443	7,997	5,151	13,148
Total special	*20,293*	*31*	*571*	*2,379*	*2,981*	*14,222*	*9,052*	*23,274*
Total students	**2,207,801**	**71,624**	**581,023**	**140,941**	**793,588**	**1,532,409**	**1,468,980**	**3,001,389**
			1987					
Primary—								
Pre-year 1 *(b)*	127,870	1,872	36,825	6,248	44,945	88,493	84,322	172,815
Year 1	186,251	2,211	47,324	8,139	57,674	126,090	117,835	243,925
Year 2	177,176	2,205	46,301	7,756	56,262	120,140	113,298	233,438
Year 3	175,303	2,497	46,172	7,769	56,438	118,620	113,121	231,741
Year 4	175,230	2,936	46,241	8,064	57,241	118,983	113,488	232,471
Year 5	175,804	3,665	46,565	8,620	58,850	120,253	114,401	234,654
Year 6	178,862	4,233	47,386	9,295	60,914	122,783	116,993	239,776
Year 7 *(c)*	68,224	1,613	13,965	3,289	18,867	44,776	42,315	87,091
Ungraded	9,706	11	284	1,478	1,773	6,983	4,496	11,479
Total primary	*1,274,426*	*21,243*	*331,063*	*60,658*	*412,964*	*867,121*	*820,269*	*1,687,390*
Secondary—								
Year 7 *(d)*	109,535	6,342	34,895	9,948	51,185	82,482	78,238	160,720
Year 8	180,862	9,640	50,781	16,237	76,658	132,424	125,096	257,520
Year 9	188,441	9,604	50,157	15,946	75,707	134,969	129,179	264,148
Year 10	189,905	9,825	49,237	15,951	75,013	134,233	130,685	264,918
Year 11	135,952	9,630	38,576	14,937	63,143	97,209	101,886	199,095
Year 12	92,231	8,016	29,694	12,166	49,876	67,585	74,522	142,107
Ungraded	6,156	25	149	499	673	3,907	2,922	6,829
Total secondary	*903,082*	*53,082*	*253,489*	*85,684*	*392,255*	*652,809*	*642,528*	*1,295,337*
Special *(e)*—								
Primary	3,408	15	234	418	667	2,564	1,511	4,075
Secondary	3,021	14	292	375	681	2,319	1,383	3,702
Not identifiable as primary or secondary	12,805	—	88	1,486	1,574	8,632	5,747	14,379
Total special	*19,234*	*29*	*614*	*2,279*	*2,922*	*13,515*	*8,641*	*22,156*
Total students	**2,196,742**	**74,354**	**585,166**	**148,621**	**808,141**	**1,533,445**	**1,471,438**	**3,004,883**

(a) Includes full-time students attending special schools administered by government authorities other than the State Departments of Education. *(b)* Pre-year 1 comprises Kindergarten in NSW and ACT, Preparatory in Vic., and Tas., Reception in SA, and Transition in NT. *(c)* Year 7 is primary education in Qld, SA, WA, and NT. *(d)* Year 7 is secondary education in NSW, Vic., Tas., and the ACT. (e) Attending special schools.

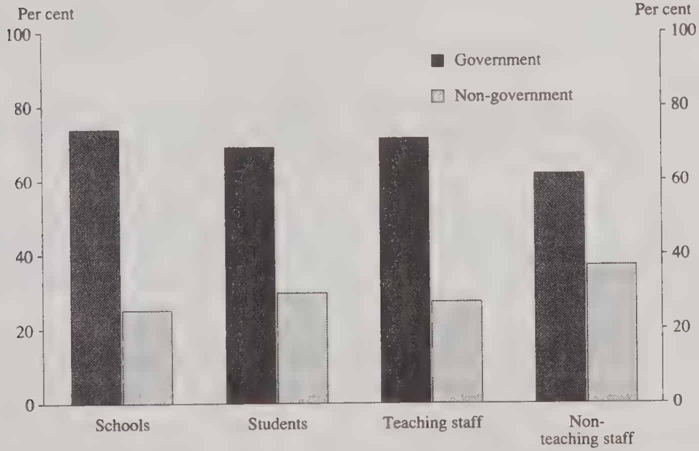
PRIMARY SCHOOLS, FULL-TIME STUDENTS AND FTE(a) OF SCHOOL STAFF BY CATAGORY OF SCHOOL, AUSTRALIA, 1987



(a) Full-time teaching staff plus full-time equivalents of part-time teaching staff.

Note: Combined Primary/Secondary schools are not included in the above graph; however the associated students and staff are included. Special schools and their associated students ans staff are not included in the above graph.

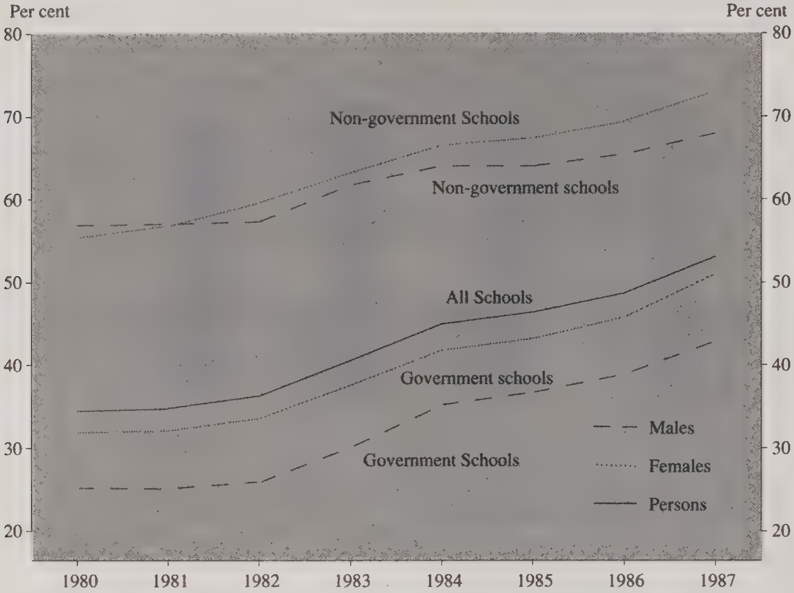
SECONDARY SCHOOLS, FULL-TIME STUDENTS AND FTE(a) OF SCHOOL STAFF BY CATEGORY OF SCHOOL, AUSTRALIA, 1987



(a) Full-time teaching staff plus full-time equivalents of part-time teaching staff.

Note: Combined Primary/Secondary schools are not included in the above graph; however the associated students and staff are included. Special schools and their associated students and staff are not included in the above graph.

APPARENT RETENTION RATES OF SCHOOL STUDENTS TO YEAR 12 BY CATEGORY OF SCHOOL AND SEX, AUSTRALIA, 1980-1987



The apparent retention rate is the percentage of students of a given cohort group who continued to a particular level/year of education. In the above diagram, apparent retention rates have been calculated for students who continued to Year 12 from their respective cohort group at the commencement of their secondary schooling.

Care should be exercised in the interpretation of apparent retention rates since a range of factors affecting their calculation have not been taken into account. At the Australia level these include students repeating a year of education, migration and other net changes to the school population.

Comparisons between government and non-government schools must be made with caution because of the net transfer of students from government to non-government schools which tends to inflate the non-government school retention rates and reduce the government school rates. International comparisons are another area where structural differences must be taken into account.

Apparent retention rates are an important measure of performance of education systems and related government policies. The Commonwealth Department of Employment, Education and Training has set a national apparent retention rate target of 63 per cent to Year 12 by 1992.

Tertiary Education

Tertiary education is provided in universities, colleges of advanced education and institutes of tertiary education (which are known collectively as higher education institutions) and in technical and further education institutions. Higher education institutions are self-governing, established in the States under State legislation. Technical and further education institutions operate as part of State-wide TAFE systems. Tuition fees are not charged for Australian students undertaking award courses in government funded tertiary education institutions. An administration charge was introduced for higher education students in 1987. Some institutions offer full fee courses for overseas students.

A recent development in Australian tertiary education has been the establishment of private institutions. By way of example the Bond University of Technology has been established in Queensland. It will operate on a fee paying basis and plans to take its first students in 1989.

At the national level, the Commonwealth Government, through its Department of Employment, Education and Training, provides a number of schemes of assistance for Australian students to facilitate access to education. A brief description of these schemes was given in *Year Book* No. 64 and a list of these schemes is included in the statistical table 'Student Assistance Schemes' within this chapter.

Technical and further education—TAFE

The major part of technical and further education in Australia is provided in government administered institutions variously known as colleges, schools, or centres of technical and further education. There is also some TAFE provision in some colleges of advanced education, agricultural colleges and adult education authorities. These institutions are spread widely throughout Australia in both metropolitan and country areas. They vary greatly in size and in the scope of their educational provisions, though the largest tend to be located in metropolitan regions. TAFE institutions operate from early February to mid December, in either three terms or two semesters depending on the institution.

Each of the States provides the bulk of the finance for its own institutions. The Commonwealth government provides supplementary funds to the States on the basis of recommendations from the Department of Employment, Education and Training.

Government TAFE institutions offer an extremely wide range of vocational and non-vocational courses. Courses may be designed to supplement previous training, to provide specialised instruction in particular aspects of job skills, pre-vocational training prior to employment, preparatory or bridging instruction to permit entry to a chosen vocational course or adult education for personal interest, leisure or general enrichment purposes. Courses may be classified into 4 major series: 1,000 Recreation, Leisure and Personal Enrichment; 2,000 Entry to Employment or Further Education; 3,000 Initial Vocational Courses; 4,000 Courses Subsequent to Initial Vocational Courses. These series, introduced for the 1986 TAFE collection of data, are represented by the 17 streams of study listed in the table below. Stream 1,000 replaces the old stream 6 classification, and streams 2,100 to 4,500 replace the old streams 1–5. The majority of TAFE courses are part-time, concurrent with employment, but there is also provision for full-time and external study.

There are additionally some non-government bodies which offer technical and further education of a non-apprenticeship nature. Business colleges offer courses in secretarial studies, while agencies such as the Workers Educational Association and a range of voluntary groups help meet adult education needs in the community.

The Department of Employment, Education and Training conducts an annual TAFE statistical collection. A key feature of the collection is its emphasis on the individual *student* as the unit of reporting rather than on enrolment.

TECHNICAL AND FURTHER EDUCATION: STUDENTS WITHIN EACH STREAM OF STUDY, 1986

(*Source:* **Department of Employment, Education and Training**)

									Australia		
Stream of study	NSW	Vic.	Qld	WA	SA	Tas.	NT	ACT	Males	Females	Persons
1000 Recreation, leisure	150,513	161,807	52,319	53,891	38,484	21,884	5,192	7,942	126,176	365,856	492,032
2100 Basic employment skills	55,154	28,548	5,627	6,078	29,374	2,220	2,308	4,808	53,866	80,251	134,117
2200 Educational preparation	19,092	39,964	13,672	14,400	9,394	1,423	465	3,614	41,918	60,106	102,024
3100 Operatives: initial	82,425	17,073	29,353	3,150	22,691	1,823	2,691	4,123	78,129	85,200	163,329
3211 Recognised trades: part exempt	5,272	867	3,417	913	2,005	354	294	23	11,901	1,244	13,145
3212 Recognised trades: complete	37,702	33,804	12,790	8,948	9,992	3,117	1,051	1,959	96,146	13,217	109,363
3221 Other skills: part exempt	0	1,387	781	95	8,296	0	556	31	5,393	5,753	11,146
3222 Other skills: complete	30,113	16,592	22,325	35,301	19,011	3,905	698	4,729	55,376	77,298	132,674
3300 Trade technician: supervisory	68,052	17,200	2,680	2,035	6,412	299	126	292	40,602	56,494	97,096
3400 Para-professional technician	5,432	23,797	8,902	17,849	671	3,724	202	3,146	37,915	25,808	63,723
3500 Para-prof. higher technician	37,596	620	2,026	27	2,751	570	1,083	0	29,294	15,379	44,673
3600 Professional	502	281	0	449	0	0	0	0	576	656	1,232
4100 Operatives: post initial	5,128	1,060	2,420	355	1,177	75	41	345	6,190	4,411	10,601
4200 Trades/other skills: post initial	15,263	40,253	9,845	4,827	804	3,178	317	3,469	51,102	26,854	77,956
4300 Trade tech/super: post initial	2,340	1,752	178	223	204	0	189	25	3,079	1,832	4,911
4400 Para-prof. tech: post initial	476	1,680	84	25	0	179	22	250	2,137	579	2,716
4500 Para-prof. high tech: post initial	2,465	11	291	0	54	48	0	56	1,860	1,065	2,925
Total net streams 2100–4500 (a)	*330,052*	*210,895*	*106,197*	*81,862*	*104,817*	*19,416*	*9,480*	*23,960*	*471,119*	*415,560*	*886,679*
Total net all streams	**478,408**	**366,466**	**158,205**	**134,837**	**140,892**	**41,300**	**14,434**	**31,580**	**593,205**	**772,917**	**1,366,122**

(*a*) The sum of the stream of study components does not add to the total as students enrolled in two or more streams have only been counted once in the total.

TECHNICAL AND FURTHER EDUCATION: STUDENTS (STREAMS 2100–4500) BY SEX, TYPE OF ATTENDANCE AND AGE GROUP, AUSTRALIA, 1986

(*Source:* **Department of Employment, Education and Training**)

	Males			*Females*			*Persons*		
Age group (years)	*Full-time*	*Part-time*	*Total*	*Full-time*	*Part-time*	*Total*	*Full-time*	*Part-time*	*Total*
16 & under	7,310	28,415	35,725	5,839	22,824	28,663	13,149	51,239	64,388
17	7,671	28,547	36,218	5,685	14,964	20,649	13,356	43,511	56,867
18	6,753	34,932	41,685	5,656	17,725	23,381	12,409	52,657	65,066
19	4,575	31,144	35,719	3,316	16,120	19,436	7,891	47,264	55,155
19 & under	*26,309*	*123,038*	*149,347*	*20,496*	*71,633*	*92,129*	*46,805*	*194,671*	*241,476*
20–24	7,419	85,741	93,160	6,061	60,538	66,599	13,480	146,279	159,759
25–29	2,496	57,967	60,463	2,349	48,922	51,271	4,845	106,889	111,734
30–39	2,243	77,990	80,233	3,495	83,920	87,415	5,738	161,910	167,648
40–49	605	33,786	34,391	1,447	47,492	48,939	2,052	81,278	83,330
50–59	200	12,418	12,618	354	19,562	19,916	554	31,980	32,534
60–64	49	2,891	2,940	71	5,455	5,526	120	8,346	8,466
65 & over	95	5,636	5,731	130	8,135	8,265	225	13,771	13,996
Not stated	731	31,505	32,236	506	34,994	35,500	1,237	66,499	67,736
Total	**40,147**	**430,972**	**471,119**	**34,909**	**380,651**	**415,560**	**75,056**	**811,623**	**886,679**

TECHNICAL AND FURTHER EDUCATION: DUTY HOURS OF TEACHING STAFF ('000) AND FULL-TIME TEACHING STAFF NUMBERS BY TYPE OF APPOINTMENT, 1986
(*Source:* Department of Employment, Education and Training)

Type of appointment and activity	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Full-time									
Teaching hours	2,841.3	2,697.7	1,273.1	832.8	906.5	263.9	141.1	193.8	9,150.2
Non-teaching hours	3,589.4	2,289.3	1,725.5	1,454.9	734.2	378.9	232.0	318.9	10,723.1
Total duty hours	*6,430.7*	*4,987.0*	*2,998.6*	*2,287.7*	*1,640.7*	*642.8*	*373.1*	*512.7*	*19,873.3*
Number of Staff	5,477	5,353	2,412	1,725	1,659	530	281	519	17,956
Part-time									
Teaching hours	1,985.3	1,016.7	667.4	366.2	378.2	187.9	56.1	168.0	4,825.8
Non-teaching hours	266.4	155.2	90.0	12.7	6.7	7.0	11.8	19.5	569.3
Total duty hours	*2,251.7*	*1,171.9*	*757.4*	*378.9*	*384.9*	*194.9*	*67.9*	*203.1*	*5,410.7*
All teaching staff									
Teaching hours	4,826.6	3,714.4	1,940.5	1,199.0	1,284.7	451.8	197.2	361.8	13,976.0
Non-teaching hours	3,855.8	2,444.5	1,815.5	1,467.6	740.9	385.9	243.8	338.4	11,292.4
Total duty hours	**8,682.4**	**6,158.9**	**3,756.0**	**2,666.6**	**2,025.6**	**837.7**	**441.0**	**700.2**	**25,268.4**

Colleges of advanced education

Colleges of advanced education normally operate over three terms or two semesters, beginning in early to late February and running to mid-December. Students commencing courses will have completed a full secondary education, or will have demonstrated that they have high probability of successfully completing a course. There is keen demand for places at many institutions and quotas are often placed on new enrolments at many of the larger colleges. Students are able to enrol on a full-time or part-time basis and there are usually provisions for mature-age entry.

Colleges of advanced education emphasise undergraduate teaching more than research. Undergraduate courses offered are usually at diploma or degree level, although some associate diploma level courses are also offered. Colleges are able to offer post-graduate level courses, either at diploma or masters degree level. Most colleges have a commitment to part-time study, and many offer 'sandwich' courses, which provide a period of full-time study with associated periods of full-time employment. Some colleges also offer external courses.

Colleges of advanced education offer a great variety of courses embracing such areas as applied science, teacher education, business and secretarial studies, liberal arts, and health science studies. The duration of a basic undergraduate course is two to three full-time years, at the conclusion of which an associate diploma, diploma or bachelor degree is awarded.

Some colleges may be large, diversified or multi-vocational institutions, while others are small single purpose institutions. There are 46 colleges of advanced education which can be broadly classified into the following categories:

- central institutes of technology;
- other multi-purpose metropolitan colleges;
- regional colleges;
- specialist colleges.

In addition there are two institutes of advanced education within universities.

The tuition system in colleges of advanced education is similar to that in universities. Lectures, tutorials and seminars are organised by the institution in the subjects offered. Normally, assessment of a student's progress is made by examination and/or completion of prescribed coursework.

Halls of residence are provided at some colleges of advanced education, principally those located in country areas. These can accommodate some, but not usually all, students enrolled at those institutions.

ADVANCED EDUCATION: STUDENTS BY TYPE OF INSTITUTION, AUSTRALIA

(*Source:* **Department of Employment, Education and Training)**

	Type of institution					
Course level	*College of advanced education*	*Institute of advanced education within a university*	*TAFE institution*	*Other Common-wealth institution*	*Other*	*Total*
		1986				
Course level—						
Masters degree	2,464	—	—	—	—	2,464
Graduate diploma	25,251	179	77	17	498	26,022
Bachelor degree	112,977	1,432	1,606	125	770	116,910
Diploma	34,690	1,042	924	93	1,160	37,909
Associate diploma	19,794	656	2,951	23	90	23,514
Non-award *(a)*	2,146	8	194	48	8	2,404
Total students enrolled	**197,322**	**3,317**	**5,752**	**306**	**2,526**	**209,223**
		1987 *(b)*				
Course level—						
Masters degree	2,638	—	—	—	—	2,638
Graduate diploma	24,356	151	187	13	304	25,011
Bachelor degree	119,299	1,661	1,950	129	765	123,804
Diploma	35,822	750	711	73	999	38,355
Associate diploma	17,758	711	3,067	24	91	21,651
Non-award *(a)*	1,439	1	32	—	—	1,472
Total students enrolled	**201,312**	**3,274**	**5,947**	**239**	**2,159**	**212,931**

(a) Students who are enrolled in parts of advanced education courses, including single subjects, but who are not proceeding to an award of the institution (previously known as Miscellaneous). *(b)* Excludes students attending the following institutions previously included: Aboriginal Islanders Development Scheme (12), Australian College of Physical Education (134), International College of Osteopathy (4), and NSW Theological Colleges (513).

ADVANCED EDUCATION: STUDENTS BY COURSE LEVEL; TYPE OF ENROLMENT; AGE-GROUP AND SEX, AUSTRALIA

(*Source:* **Department of Employment, Education and Training)**

	1982	*1983*	*1984*	*1985*	*1986*	*1987*
Course level—						
Masters degree	1,457	1,585	1,815	2,054	2,464	2,638
Graduate diploma	21,443	22,309	22,952	24,362	26,022	25,011
Bachelor degree	93,056	97,260	101,679	107,528	116,910	123,804
Diploma	33,562	35,266	34,581	35,548	37,909	38,355
Associate diploma	16,319	20,202	21,963	22,948	23,514	21,651
Non-award *(a)*	2,751	3,271	2,830	2,791	2,404	1,472
Type of enrolment—						
Full-time internal	77,795	86,325	90,852	97,360	105,019	118,380
Part-time internal	65,992	67,754	67,679	68,759	72,263	64,558
External	24,801	25,814	27,289	29,112	31,941	29,993
Age (in years)—						
19 and under	45,684	48,404	49,957	53,693	58,102	65,109
20–29	75,431	79,984	81,358	83,776	88,594	88,249
30–59	46,366	49,689	52,729	56,453	61,360	58,801
60 and over	320	439	425	474	487	399
Not stated	787	1,377	1,351	835	680	373
Sex—						
Males	87,504	93,316	96,544	99,370	103,616	101,294
Females	81,084	86,577	89,276	95,861	105,607	111,637
Persons	**168,588**	**179,893**	**185,820**	**195,231**	**209,223**	**212,931**

(a) Non-award students are students enrolled in parts of advanced education courses, including single subjects, who are not proceeding to an award (previously known as Miscellaneous).

NOTE: The statistics prior to 1983 relate only to advanced education courses conducted at colleges of advanced education and institutes of advanced education in universities (former CAEs). The statistics for 1983 onwards relate to all advanced education courses conducted within any tertiary education institution in Australia.

UNIVERSITIES AND ADVANCED EDUCATION COMMENCING AND TOTAL STUDENTS BY COURSE LEVEL AND FIELD OF STUDY, AUSTRALIA, 1987

(*Source*: Commonwealth Tertiary Education Commission)

	Commencing Students				*Total Students*			
Field of Study (a)	*Higher Degree*	*Bachelor Degree*	*Other*	*Total*	*Higher Degree*	*Bachelor Degree*	*Other*	*Total*
UNIVERSITIES								
Agriculture/Animal Husbandry	200	482	72	754	729	1,685	103	2,517
Architecture/Building	185	924	107	1,216	533	3,457	218	4,208
Arts/Humanities/Social Sciences	2,102	18,614	1,012	21,728	6,246	53,113	1,679	61,038
Business Admin./Economics	1,476	7,706	539	9,721	3,538	21,665	975	26,178
Education	1,422	2,034	2,353	5,809	4,213	6,479	3,099	13,791
Engineering/Surveying	706	3,590	206	4,502	2,326	11,774	347	14,447
Health	582	2,386	208	3,176	1,937	11,041	318	13,296
Law/Legal Studies	341	1,788	256	2,385	870	7,088	354	8,312
Science	1,318	9,116	831	11,265	4,676	25,327	1,493	31,496
Veterinary Science	81	312	16	409	262	1,179	17	1,458
Non-award	—	—	3,007	3,007	—	—	4,062	4,062
Total 1987	**8,413**	**46,952**	**8,607**	**63,972**	**25,330**	**142,808**	**12,665**	**180,803**
1986	**7,402**	**44,465**	**9,232**	**63,099**	**25,430**	**142,183**	**13,870**	**181,483**
ADVANCED EDUCATION								
Agriculture/Animal Husbandry	127	664	1,070	1,861	171	1,838	2,535	4,544
Architecture/Building	193	1,271	73	1,537	487	4,062	217	4,766
Arts/Humanities/Social Sciences	1,921	10,246	3,656	15,823	3,360	23,747	7,569	34,676
Business Admin./Economics	2,904	13,329	2,383	18,616	5,701	35,868	4,941	46,510
Education	6,681	8,521	9,471	24,673	11,388	22,852	24,081	58,321
Engineering/Surveying	665	3,561	994	5,220	1,477	11,551	2,623	15,651
Health	956	3,600	6,305	10,861	1,815	8,599	13,618	24,032
Law/Legal Studies	573	475	184	1,232	612	1,877	544	3,033
Science	1,372	5,471	1,937	8,780	2,638	13,410	3,878	19,926
Veterinary Science	—	—	—	—	—	—	—	—
Non award	—	—	1,225	1,225	—	—	1,472	1,472
Total 1987	**15,392**	**47,138**	**27,298**	**89,828**	**27,649**	**123,804**	**61,478**	**212,931**
1986	**15,221**	**43,126**	**27,544**	**85,891**	**28,486**	**116,910**	**63,827**	**209,223**

(a) Some Field of Study data may not be comparable with data previously published.

ADVANCED EDUCATION: TEACHING AND NON-TEACHING STAFF, AUSTRALIA
(Full-time equivalent units, rounded to whole numbers)

(*Source*: **Department of Employment, Education and Training)**

	1982	*1983*	*1984*	*1985*	*1986*	*1987*
Teaching staff *(a)*—						
Full-time	8,605	9,012	9,079	9,401	9,738	10,103
Part-time	1,223	1,418	1,528	1,638	1,832	2,023
Total	**9,828**	**10,430**	**10,607**	**11,039**	**11,570**	**12,126**
Non-teaching staff *(b)*—						
Full-time	9,874	9,905	10,268	10,306	10,636	11,020
Part-time	995	966	1,027	1,063	1,132	1,361
Total	**10,869**	**10,871**	**11,295**	**11,369**	**11,768**	**12,381**

(a) The teaching staff statistics prior to 1983 relate only to the teaching of advanced education courses conducted at CAEs and institutes of advanced education in universities (former CAEs); the statistics for 1983 onwards relate to the teaching of all advanced education courses conducted within any tertiary education institution in Australia. *(b)* Non-teaching staff statistics for all years relate only to CAEs.

Universities

The university year in Australia normally runs from late February or early March to mid December over three terms or two semesters depending on the institution. Normally students commencing courses will have completed a full secondary education, though most universities have some provisions for admitting other persons who can demonstrate that they have a high probability of successfully completing a course. As with colleges of advanced education, there is high demand for places in universities and there are quotas on new enrolments in most faculties in Australian universities. Although there are usually provisions for mature-age entry, the majority of students proceed straight from school.

UNIVERSITIES: STUDENTS BY COURSE LEVEL; TYPE OF ENROLMENT; AGE GROUP AND SEX, AUSTRALIA

(*Source:* **Department of Employment, Education and Training)**

	1982	*1983*	*1984*	*1985*	*1986*	*1987*
Course level—						
Doctorate *(a)*	7,040	7,195	7,485	7,805	8,064	8,311
Masters degree	16,341	16,338	16,488	16,749	17,366	17,019
Bachelor degree	131,992	133,275	135,605	137,490	142,183	142,808
Non-degree	12,030	12,542	13,100	13,432	13,870	12,665
Type of enrolment *(b)*—						
Full-time internal	100,357	102,801	106,019	107,427	110,670	115,774
Part-time internal	51,900	51,231	50,682	51,562	53,211	49,291
External	15,146	15,318	15,977	16,487	17,602	15,738
Age (in years)—						
19 and under	47,594	47,953	49,018	50,168	53,373	56,731
20–29	77,111	77,583	78,301	78,429	79,106	77,407
30–59	41,576	42,573	43,936	45,286	47,473	45,223
60 and over	952	1,095	1,232	1,416	1,462	1,332
Not stated	170	146	191	177	69	110
Sex—						
Males	94,354	94,508	95,157	95,146	96,703	95,090
Females	73,049	74,842	77,521	80,330	84,780	85,713
Persons	**167,403**	**169,350**	**172,678**	**175,476**	**181,483**	**180,803**

(a) Comprises PhDs and doctorates other than PhDs. *(b)* Prior to 1983 full-time external students were included with full-time internal students. Since 1983 they have been included in the external category.

UNIVERSITIES: STUDENTS COMPLETING COURSES; BY SEX AND COURSE LEVEL, AUSTRALIA (a)

(*Source:* **Department of Employment, Education and Training**)

Course level	*1982*	*1983*	*1984*	*1985*	*1986 (b)*	*1986 (c)*
MALES						
Doctorate (other than PhD)	51	45	47	54	59	44
Doctor of Philosophy (PhD)	697	704	761	736	814	862
Masters degree	1,617	1,830	1,997	2,016	1,955	2,063
Post-graduate diploma	1,362	1,337	1,393	1,390	1,453	1,320
Bachelor degree	14,208	14,148	14,448	14,572	14,038	14,771
Total	*17,935*	*18,064*	*18,646*	*18,768*	*18,319*	*19,060*
FEMALES						
Doctorate (other than PhD)	5	3	3	4	8	4
Doctor of Philosophy (PhD)	204	202	195	213	247	287
Masters degree	623	754	846	872	934	1,134
Post-graduate diploma	1,599	1,507	1,634	1,684	1,611	1,728
Bachelor degree	10,999	11,579	11,470	11,879	12,493	13,382
Total	*13,430*	*14,045*	*14,148*	*14,652*	*15,293*	*16,535*
PERSONS						
Doctorate (other than PhD)	56	48	50	58	67	48
Doctor of Philosophy (PhD)	901	906	956	949	1,061	1,149
Masters degree	2,240	2,584	2,843	2,888	2,889	3,197
Post-graduate diploma	2,961	2,844	3,027	3,074	3,064	3,048
Bachelor degree	25,207	25,727	25,918	26,451	26,531	28,153
Total	**31,365**	**32,109**	**32,794**	**33,420**	**33,612**	**35,595**

(*a*) DEET has introduced a new reference period for students completing university courses. Data for the transition year of 1986 are therefore presented to reflect both the old and new reference periods. (*b*) Data for this and previous years are based on the reference period 1 July to 30 June. (*c*) Based on the reference period 1 January to 31 December.

The Commonwealth Government funds nineteen universities, most of which are located in the capital cities. Universities are autonomous institutions established under Acts of the appropriate parliament. The basic undergraduate course in most disciplines is three or four full-time years in duration, at the conclusion of which a bachelor degree is awarded. A further one to two years of full-time study is required for a masters degree, and three to five years for a doctoral degree. Universities also offer post-graduate diploma courses in some disciplines. All universities offer full-time and part-time courses, and some offer external studies. In 1987, 64 per cent of students were enrolled in full-time study. As well as providing undergraduate courses, Australian universities are centres of post-graduate study and research. Some universities have institutes or units involved exclusively in research or post-graduate teaching. In 1987, 14 per cent of university students were undertaking higher degree study.

Courses in Australian universities are normally organised in faculties or schools, and students generally elect to study in a number of subject areas, or departments, within a faculty or school. Universities will generally offer some, but not all, of the following courses of study: agriculture, architecture, arts, dentistry, economics, education, engineering, law, medicine, music, science and veterinary science.

The system of tuition in universities is normally by means of lectures, tutorials, seminars and supervised practical work. Normally, assessment of a student's progress is made by examination and/or completion of prescribed coursework or of individual research.

Most universities have halls of residence on the campus which accommodate some of the students currently enrolled, usually those from remote or country areas. Student organisations on campus provide a wide range of sporting and social facilities for students.

UNIVERSITIES: STAFF BY TYPE OF EMPLOYMENT, AUSTRALIA
(Full-time equivalent units, rounded to whole numbers)

(*Source:* **Department of Employment, Education and Training)**

	1982	*1983*	*1984*	*1985*	*1986*	*1987*
Teaching-and-research staff—						
Full-time	10,499	10,353	10,454	10,539	10,655	10,713
Part-time	1,108	1,084	1,173	1,212	1,159	1,162
Total	*11,607*	*11,437*	*11,627*	*11,751*	*11,814*	*11,875*
Research only staff—						
Full-time	2,303	2,276	2,409	2,408	2,564	2,323
Part-time	83	66	63	36	89	61
Total	*2,386*	*2,342*	*2,472*	*2,444*	*2,653*	*2,384*
General staff—						
Full-time	21,643	21,752	21,981	22,324	22,481	21,061
Part-time	1,226	1,310	1,157	1,322	1,377	917
Total	*22,869*	*23,062*	*23,138*	*23,646*	*23,858*	*21,978*
All staff—						
Full-time	*34,445*	*34,381*	*34,844*	*35,271*	*35,700*	*34,097*
Part-time	*2,417*	*2,460*	*2,393*	*2,570*	*2,625*	*2,140*
Total	**36,862**	**36,842**	**37,237**	**37,841**	**38,325**	**36,237**

Programs Spanning the Educational Sectors

1987 saw the introduction of AUSTUDY, a new Commonwealth scheme of financial assistance to secondary and tertiary students aged 16 and over. The Government spent more than $775 million on student assistance in 1988. Income-tested and non-competitive, AUSTUDY replaced the former Tertiary Education Assistance Scheme (TEAS), Secondary Allowances Scheme (SAS) and Adult Secondary Education Assistance Scheme (ASEAS). With its allowance rates aligned from 1988 onwards with unemployment benefits, and with all rates being indexed thereafter, AUSTUDY is a major element in the Commonwealth Government's drive to increase participation in full-time education at the upper secondary and tertiary levels.

STUDENT ASSISTANCE SCHEMES

Scheme	*Number of students at 30 June 1988*	*Assistance ($'000) 1987–1988*
Postgraduate Awards	2,450	21,974
Tertiary Education Assistance Scheme/AUSTUDY Tertiary	122,191	418,015
SAS/AUSTUDY Secondary	108,631	206,002
ASEAS/AUSTUDY Adult Secondary	4,824	16,535
Aboriginal Secondary Grants *(a)*	27,095	33,573
Aboriginal Study Grants *(a)*	16,128	44,307
Aboriginal Study Grants Overseas *(b)*	5	240
Assistance for Isolated Children *(a)*	17,000	31,796
English as a Second Language— Living Allowances *(a)*	639	2,736

(a) Total numbers assisted in the six months to 30 June. *(b)* Total numbers assisted in the financial year to 30 June.

Under AUSTUDY the number of students to be assisted will increase substantially. Almost 225,000 students received AUSTUDY in 1987, compared with an estimated 187,000 under SAS, ASEAS and TEAS in 1986, and approximately 285,000 received assistance in 1988.

Assistance for isolated children has been substantially improved, with rates of allowance and income test levels brought into line with AUSTUDY.

A special allowance was introduced in July 1986 to fill the critical gap in provision for young people unable to live at home because of exceptional and intolerable circumstances. The Young Homeless Allowance gives this group the chance to stay on at school.

Aboriginal and Torres Strait Islander students remain the single most educationally disadvantaged group in Australian education. The Government provides specific assistance to Aboriginal secondary and tertiary students through the Aboriginal Study Assistance Scheme (ABSTUDY). (Since 1989 ABSTUDY has encompassed the former Aboriginal Secondary Assistance Scheme as well as the Study Assistance Scheme at the post-schooling level.) As well as financial assistance with rates of allowance linked to AUSTUDY, the scheme provides for special courses, short term education programs and direct education assistance such as tutorial assistance, educational guidance, vocational guidance and work experience programs and excursion assistance. The government has increased education opportunities for Aboriginals and Torres Strait Islanders by:

- building better school facilities in Aboriginal and Islander communities through the Aboriginal and Torres Strait Islander element of the Commonwealth Capital Grants Program;
- developing support measures for Aboriginal and Torres Strait Islander students in tertiary education, including bridging courses and enclave programs;
- earmarking higher education places for Aboriginal students.

Expenditure on Education

The aim of this section is to provide information on the extent and direction of both government and private expenditure on education in recent years. The figures have been compiled in accordance with national accounting concepts. For explanation of these concepts, reference should be made to *Australian National Accounts: Concepts, Sources and Methods* (5216.0), *Classification Manual for Government Finance Statistics, Australia* (1217.0) and also to *Commonwealth Government Finance, Australia* (5502.0), and *State and Local Government Finance, Australia* (5504.0), from which figures included in this section have also been taken.

The emphasis given in this section to the outlays of the public sector reflects in part the relative importance of that sector in the provision of education services, but it is also a reflection of the lack of detailed information relating to educational activities in the private sector. Information is given, however, to show the order of magnitude of private sector spending, and also to show aggregate supply of education services and facilities. For more information on the extent and direction of both government and private expenditure on education, reference should be made to *Expenditure on Education, Australia* (5510.0).

Total expenditure on education

Total expenditure on education can be measured by adding together the final expenditures of the public and private sectors.

The figure derived for total expenditure on education can be regarded as a measure of the aggregate supply of education services and facilities and can therefore be related to the supply of goods and services available from domestic production (i.e. gross domestic product). Final consumption expenditure and capital expenditure on education, by sector, can also be related to gross domestic product. These relationships are shown in the following table.

Public sector

The statistics presented here for the public sector relate to those outlays which have been identified as being primarily designed to serve the purposes of 'education', as broadly defined in the United Nations System of National Accounts. Included, therefore, are outlays on administration and regulation of school systems and institutions of higher learning and educational research; on provision, inspection and support of primary and secondary schools, colleges and universities, technical training institutions, schools for the handicapped, adult education facilities, pre-school centres etc.; on scholarships etc.; and on subsidiary services such as transportation of school children and fare concessions. Expenditure on school medical and dental services and provision of free milk for school children are not included, as these are regarded as primarily serving the purpose of health.

AUSTRALIA: EXPENDITURE ON EDUCATION

Description	*1980–81*	*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*
			—$ million—			
Government—						
General government final consumption expenditure	5,839	6,681	7,485	8,230	8,859	9,714
Gross fixed capital expenditure	625	617	653	732	876	1,018
Increase in stocks	—	1	–1	3	—	1
Final expenditure (1)	6,464	7,299	8,137	8,965	9,736	10,733
Personal benefit payments (2)	455	478	549	663	746	835
Grants and advances to non-profit institutions	650	792	972	1,084	1,182	1,328
Other (3)	7	8	14	17	27	29
Total government outlay on education	**7,576**	**8,577**	**9,672**	**10,729**	**11,691**	**12,925**
Private—						
Private final consumption expenditure	987	1,166	*(a)*1,425	*(a)*1,614	*(a)*1,773	*(a)*1,971
Gross fixed capital expenditure	137	160	196	177	175	224
Final expenditure (4)	1,124	1,326	1,621	1,791	1,948	2,195
Total final expenditure on education (1) + (4)	7,588	8,625	9,758	10,756	11,684	12,928
Total outlay on education (1) + (2) + (3) + (4)	8,050	9,111	10,321	11,436	12,457	13,792
Gross Domestic Product	137,539	154,988	169,921	192,276	214,735	240,136
			—per cent—			
Total government outlay as percentage of Gross Domestic Product	5.5	5.5	5.7	5.6	5.4	5.4
Total outlay on education as percentage of Gross Domestic Product	5.9	5.9	6.1	5.9	5.8	5.7
Total final expenditure on education as percentage of Gross Domestic Product	5.5	5.6	5.7	5.6	5.4	5.4
of which—						
General government final consumption expenditure	4.2	4.3	4.4	4.3	4.1	4.0
Private final consumption expenditure	0.7	0.8	0.8	0.8	0.8	0.8
Government gross fixed capital expenditure	0.5	0.4	0.4	0.4	0.4	0.4
Private gross fixed capital expenditure	0.1	0.1	0.1	0.1	0.1	0.1

(a) Revised since the 1983–84 edition of *Australian National Accounts: National Income and Expenditure* (5204.0) because of revisions to the component series 'current grants from government to non-profit institutions for education'.

Private sector

Final expenditure on education by the private sector consists of private final consumption expenditure on education services, and expenditure on new fixed assets—mainly by private non-profit organisations and financed in part by grants from public authorities for private capital purposes. Private final consumption expenditure on education services is an estimate of fees paid by persons to government schools (mainly technical and agricultural colleges), fees and gifts to universities and school fees (other than boarding fees) paid to non-government schools, business colleges, etc. Expenditure on such items as school books, uniforms, etc., and expenditure by parents' associations on school equipment is not included, being treated in the Australian National Accounts as private final consumption expenditure on other goods and services (such as clothing, books, household durables, etc.). Private expenditure on new fixed assets is estimated from statistics of the value of work done on new building and major additions to buildings of private educational institutions.

Commonwealth Government

Details of outlay on education by authorities of the Commonwealth Government are given in the following table.

COMMONWEALTH GOVERNMENT: OUTLAY ON EDUCATION CLASSIFIED BY GOVERNMENT PURPOSE CLASSIFICATION
($ million)

Government purpose classification		*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
041	Primary and secondary education	1,194.1	1,430.6	1,585.8	1,738.6	1,899.0	1,995.7
042	Tertiary education	2,045.6	2,276.3	2,500.6	2,770.5	3,000.0	3,171.9
0421	University education	1,085.9	1,196.8	1,293.4	1,385.2	1,500.6	1,544.1
0422	Other higher education	682.0	764.8	861.8	936.5	1,051.0	1,143.1
0423	Technical and further education	263.1	298.0	321.7	417.5	409.3	436.6
0429	Tertiary education, n.e.c.	14.5	17.1	23.8	31.4	39.2	48.1
043	Pre-school education and education not definable by level	82.7	93.7	99.0	104.8	94.4	84.6
0431	Pre-school education	33.1	37.1	37.7	38.0	22.1	6.1
0432	Special education	0.1	0.1	0.1	0.1	0.2	0.3
0439	Other education not definable by level	49.6	56.2	61.3	66.6	72.1	78.2
044	Transportation of students	3.6	4.1	4.6	5.3	5.4	6.2
049	Education, n.e.c.	20.1	17.0	16.5	18.1	13.4	54.4
	Total outlay on education	3,346.2	3,821.8	4,206.8	4,632.3	5,012.5	5,312.8
	Total outlay on all purposes	43,562.8	50,990.3	59,476.5	66,804.2	73,951.2	79,850.5
				—per cent—			
	Outlay on education as a percentage of total outlay	7.7	7.5	7.1	6.9	6.8	6.7

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Colleges of Advanced Education, Australia (4206.0)
University Statistics, Australia (4208.0)
National Schools Statistics Collection: Government Schools, Australia (4215.0)
Non-government Schools, Australia (4216.0)
Tertiary Education, Australia (4218.0)
National Schools Statistics Collection, Australia (4221.0)

Financial aspects are dealt with in the annual publications:
Commonwealth Government Finance, Australia (5502.0)
State and Local Government Finance, Australia (5504.0)
Expenditure on Education, Australia (5510.0)
Government Financial Estimates, Australia (5501.0)

Other Publications

Publications produced by the Department of Employment, Education and Training are:
Selected University Statistics
Selected Advanced Education Statistics
Selected Higher Education Statistics
Selected TAFE Statistics
Australian Education Directory
Directory of Higher Education Courses
Directory of Education Research and Researchers in Australia

The annual reports of the respective State education departments also provide detailed statistical information.

11

LAW AND ORDER

The Law in Australia

Nature and composition

The laws of a country represent the common body of rules, whether proceeding from legislation, executive action, court judgments or custom, that a State or community recognises as binding on its citizens or members, and which are enforceable by judicial means. In Australia, the law consists basically of:

- Acts passed by the Federal Parliament acting within the scope of its powers under the Australian Constitution, together with regulations, rules and orders made under such Acts;
- Acts and Ordinances passed in respect of the Australian Capital Territory and the Northern Territory of Australia, together with regulations, rules and orders made under such Acts and Ordinances;
- Acts passed by State Parliaments and the Legislative Assembly of the Northern Territory, together with regulations, rules and orders made under such Acts;
- so much of the common or statute law of England that still applies to Australia and remains unrepealed; and
- the common law, consisting of judicial decisions.

These various laws relate to a number of subject matters, including constitutional law, criminal law, civil law, family law and industrial law.

Federal and State responsibilities

Under the Australian Constitution, the Commonwealth of Australia is empowered to make laws in relation to certain matters specified in the Constitution, e.g. in relation to trade and commerce, taxation, defence and external affairs. In relation to some of these matters, the powers of the Commonwealth are concurrent with those of the Australian States and Territories in that they may be exercised by either the Commonwealth or the States or Territories. In relation to some other specified topics the Commonwealth's power is absolute. In all areas of federal jurisdiction, Commonwealth laws are binding on the Australian States and Territories.

The Australian States and Territories have independent jurisdiction in all matters not specifically invested in the Commonwealth of Australia, and it is the statute and the common law of the States and Territories that primarily govern the day-to-day lives of most Australians. With certain exceptions, such as traffic laws, State and Territorial law normally applies only to persons who are residents of the State or Territory concerned and to things located, or events occurring, within that State or Territory.

The common law is uniform throughout Australia, although statute law often varies between the States and Territories. However, some of the problems arising from these differences have become recognised over recent years and wherever possible attempts are being made to enact uniform laws in areas of State and Territory jurisdiction.

Administration

Administration of the law in Australia is undertaken by the responsible government, principally through federal, State and Territorial police forces, the National Crime Authority, federal, State and Territorial courts, and State and Territorial corrective and penal services. There is no independent federal corrective service, and the relevant State or Territorial agencies provide corrective services for federal offenders.

The various Australian law enforcement agencies involved in the administration of law operate in such a way that the activities of one agency may affect the activities of another, e.g. a criminal offence reported to the police may lead to the arrest, charging and court appearance of the offender, and the subsequent provision of corrective treatment (e.g. imprisonment, probation) or welfare services. The agencies involved, and the relationship between them, may vary according to the laws, agencies and types of matters or offenders involved.

Law reform

Reform of the law is undertaken principally through Federal and State Parliaments, as well as Attorneys-General acting in some instances on recommendations made by State or Australian Law Reform Commissions, and by State Supreme Courts or Federal Courts.

Law Reform Commissions have been established as statutory authorities in all Australian States (except South Australia) to undertake review of State laws, and to report findings and recommendations for the reform of those laws to State Parliaments and Attorneys-General. (In South Australia, a Law Reform Committee was established by proclamation to perform similar functions in that State.) Additionally, in Victoria there is a Chief Justice's Law Reform Committee and a Victorian Legal and Constitutional Committee established under the *Parliamentary Committees (Joint Investigatory Committees) Act 1982*. These agencies have functions to recommend reform of the law. Acceptance of their recommendations depends upon governmental and parliamentary reaction to the proposals.

The Australian Law Reform Commission

The Australian Law Reform Commission commenced operations in 1975 under the *Law Reform Commission Act 1973*. The Commission was established to report on the review, simplification and modernisation of those laws concerning matters assigned by the Australian Constitution to the jurisdiction of the Federal Parliament, and to consider proposals for the uniformity of laws of the Australian States and Territories. The Commission is required to make reports arising out of such review or consideration to the Federal Attorney-General, and to make such recommendations as it thinks fit.

The Commission has assumed the functions formerly undertaken by the ACT Law Reform Commission, and has the responsibility for review of Territorial law operating in the Australian Capital Territory. To assist in this, a branch office has been established in Canberra.

In undertaking its functions the normal procedure of the Commission is as follows. Upon receipt of a reference, the Commission advertises and calls for public submissions in relation to that reference, and prepares consultative papers examining the issues for distribution among groups thought to have a special interest in the subject matter under review. Public sittings are conducted, and, in the light of submissions received, a final report which usually contains draft legislation is prepared for submission to the Federal Attorney-General. The Commission, which consisted of three full-time, and thirteen part-time members at 30 June 1987, makes extensive use of honorary consultants.

To 30 April 1988, the Commission has completed reports on the following references:

- complaints against police;
- criminal investigation;
- alcohol, drugs and driving;
- consumers in debt;
- insolvency: the regular payment of debts;
- the recognition of Aboriginal customary law;
- unfair publication;
- defamation and privacy;
- sentencing of federal offenders;
- human tissue transplants;
- lands acquisition and compensation;
- insurance intermediaries;
- child welfare;
- insurance contracts;
- privacy;
- evidence;
- standing in public interest litigation;
- community law reform for the Australian Capital Territory (two reports);
- domestic violence;
- foreign state immunity;
- complaints against police (supplementary report);
- privacy and the Census;
- admiralty jurisdiction;
- contempt;
- matrimonial property;
- occupiers' liability.

Legislation following the recommendations contained in some of these reports has been enacted. In other cases, the proposals made by the Commission are under consideration by Federal Parliament or the appropriate Commonwealth department. Current references include access to court (class actions); general insolvency; community law reform in the ACT; product liability and Customs law.

Federal Courts

The judicial power of the Commonwealth of Australia is vested in the High Court of Australia, in the federal courts created by the Federal Parliament and in the State courts invested by Parliament with federal jurisdiction. The nature and extent of the judicial power of the Commonwealth is prescribed by Chapter III of the Australian Constitution.

High Court of Australia

The Commonwealth of Australia Constitution Act provides that the judicial power of the Commonwealth should be vested in a 'Federal Supreme Court, to be called the High Court of Australia'. The Constitution requires that there shall be a Chief Justice and not less than two other Justices of the High Court. Today there are six other Justices. Originally, Justices were appointed for life. However, following an amendment to the Constitution in 1977, Justices appointed after that date retire at seventy years of age.

The High Court was established in 1903 and was originally based in Melbourne. However, since 1980, it has been principally located in Canberra, although it continues to visit the States regularly.

The Constitution vests two types of jurisdiction in the High Court: original, under sections 75 and 76; and appellate, under section 73.

Original jurisdiction is conferred by section 38 of the Judiciary Act in respect of:

(a) matters arising directly under any treaty;

(b) suits between States, or between persons suing or being sued on behalf of different States, or between a State and a person suing or being sued on behalf of another State;

(c) suits by the Commonwealth, or any person suing on behalf of the Commonwealth, against a State, or any person suing or being sued on behalf of a State;

(d) suits by a State, or any person suing on behalf of a State, against the Commonwealth or any person being sued on behalf of the Commonwealth; and

(e) matters in which a writ of mandamus or prohibition is sought against an officer of the Commonwealth of Australia or of a federal court. (However, the High Court shares some of its jurisdiction under this section with the Federal Court of Australia.)

The High Court is empowered by section 44 of the Judiciary Act to remit to another court any matters under Section 38 of that Act. In addition, the High Court is the Commonwealth Court of Disputed Returns under section 354 of the *Commonwealth Electoral Act 1918*.

The appellate jurisdiction of the High Court derives from the Judiciary Act, together with the *Federal Court of Australia Act 1976* and the *Family Law Act 1975*, and permits the High Court to grant leave to appeal from decisions of:

(i) State Supreme Courts;

(ii) State courts exercising federal jurisdiction;

(iii) the Federal Court of Australia; and

(iv) the Family Court of Australia.

In considering whether or not to grant an application for leave to appeal from a judgment, the High Court may have regard to any matters that it considers relevant, but it is required to have regard to whether the application before it:

involves a question of law that is of public importance, or upon which there are differences of opinion within, or among, different courts; or

should be considered by the High Court in the interests of the administration of justice.

The High Court is the final court of appeal in Australia.

Federal Court of Australia

The Federal Court of Australia was created by the *Federal Court of Australia Act 1976* and began to exercise its jurisdiction on 1 February 1977.

The Court consists of an Industrial Division and a General Division. Matters arising under the *Conciliation and Arbitration Act 1904* are dealt with in the Industrial Division and all other matters are dealt with in the General Division. The Court sits as required in each State, and in the Australian Capital Territory and the Northern Territory.

The Court has such original jurisdiction as is invested in it by laws made by the Federal Parliament. Except in cases where a hearing had actually commenced before 1 February 1977, the jurisdictions formerly exercised by the Federal Court of Bankruptcy and the

Australian Industrial Court have been transferred to the Federal Court. Important jurisdiction in the Court includes matters under the *Administrative Decisions (Judicial Review) Act 1977* and certain matters under the *Trade Practices Act 1974*.

The Federal Court of Australia has been invested with original jurisdiction, concurrent with that of the High Court, with respect to matters in which a writ of mandamus or prohibition or an injunction is sought against an officer of the Commonwealth of Australia.

The full Federal Court of Australia has appellate jurisdiction in relation to decisions of single judges of the full Court, decisions of the respective Supreme Courts of the Territories (but not the Northern Territory), and certain decisions of State Supreme Courts exercising federal jurisdiction (for example, under the *Income Tax Assessment Act 1936* and the *Patents Act 1952*).

Family Law

The *Family Law Act 1975* which commenced operation on 5 January 1976, introduced a new law dealing with the dissolution and nullity of marriage, custody and welfare of the children, maintenance and the settlement of property between the parties to a marriage. The Act also created the Family Court of Australia as a specialist court dealing only with matrimonial and associated proceedings.

The main change made by the Act is that matrimonial conduct and fault are no longer taken into account as grounds for divorce. The Act provides that there is only one ground for divorce, that of irretrievable breakdown of a marriage. This ground is established if the husband and wife have separated and lived apart from each other for 12 months and there is no reasonable likelihood of reconciliation.

The provisions of the Family Law Act dealing with the maintenance, custody and welfare of children of a marriage have, since 1 April 1988, applied to all children (including ex-nuptial children) in New South Wales, South Australia, Tasmania, the Australian Capital Territory, the Northern Terrritory and Norfolk Island. In Queensland and Western Australia, the Family Law Act does not apply to ex-nuptial children, who are subject to State laws.

Proceedings under the Family Law Act are dealt with by the Family Court of Australia and by certain other courts in the States and Territories. Except in certain areas of Western Australia, Magistrates Courts and Courts of Petty Sessions have jurisdiction in all proceedings under the Act except for:

- proceedings for dissolution or nullity of marriage. (The courts in which an undefended application for dissolution may be instituted or heard have been limited by regulation);
- defended proceedings for custody or concerning property worth more than $1,000, unless the parties agree to the matter being heard by a Magistrates Court or Court of Petty Sessions.

A State Family Court has been established in Western Australia to deal with family law matters in that State. That Court applies the provisions of the Family Law Act in dealing with matters related to dissolution and nullity of marriages, the custody and welfare of children of marriages, and maintenance and property settlements.

Under the Family Law Act, great emphasis is placed on the counselling services available through the Family Courts to persons involved in proceedings, as well as to any persons who have encountered marriage problems or difficulties relating to the resolution of custody and access questions. It is not necessary to start proceedings to make use of these services.

A court exercising jurisdiction under the Family Law Act is required to have regard to the following principles:

- the need to preserve and protect the institution of marriage as the union of a man and a woman to the exclusion of all others, voluntarily entered into for life;

- the need to give the widest possible protection and assistance to the family as the natural and fundamental group unit of society, particularly while it is responsible for the care and education of dependent children;
- the need to protect the rights of children and to promote their welfare; and
- the means available for assisting parties to a marriage to consider reconciliation or the improvement of their relationship with each other and their children.

In relation to the guardianship and custody of children, the Family Law Act provides that both parents are guardians, and have, subject to a court order to the contrary, the joint custody of their children under 18 years of age. However, a parent, or another interested person, can apply to the Court for sole custody of a child even if no divorce has been sought at any time.

In disputes in which the welfare of a child is in issue, a child may be separately represented. The paramount consideration for the Court in the determination of all such disputes is the welfare of the child. A court is guided by statutory considerations, which include, where appropriate, the wishes of a child. Parents of a child may agree on custody and guardianship matters, and register their agreement in a court. In relation to the welfare of children a divorce decree usually will not become effective unless the Court is satisfied that proper arrangements have been made by the parties for the welfare of their children.

Under the Family Law Act, the right of one party of a marriage to receive maintenance from the other is based on the needs of the party seeking it and the ability of the other party to pay. An application for maintenance may be made by either husband or wife, and irrespective of whether or not the parties intend to divorce.

There are certain specific matters for the Court to consider when it is dealing with maintenance applications. These include:

- the age and state of health of the parties;
- the income, property and financial resources of each of the parties and their financial obligations;
- whether either party is entitled to superannuation;
- the length of the marriage and what is an appropriate standard of living for each party;
- whether either party has to care for children;
- the extent to which the marriage has affected the earning capacity of the applicant; and
- the possibility of the applicant taking on a training course or further educational course to improve his or her employment prospects.

The Act also provides for the registration of and court approval for maintenance agreements made by the parties.

Both parents of a child have a primary duty to maintain the child. This duty has priority over all other commitments of a parent other than commitments necessary for self support and support of any other person that they have a legal duty to maintain. The Court is guided by statutory considerations in deciding what order to make. Those considerations relate to the financial support necessary to maintain the child and the contributions each party should make to that financial support. A court is required to disregard the entitlements of the child or their parents to income tested pensions. In limited circumstances a court may make an order that a step-parent maintain a stepchild.

Since 1 June 1988, the Child Support Agency, an office established within the Australian Taxation Office, collects periodic child maintenance and some spousal maintenance for a wide range of persons, including pension recipients, sole parents who have separated since that date, or who have never cohabited with the parent of a child born since that date. The Child Support Agency uses maintenance collection and enforcement methods similar to those used for the collection and enforcement of income tax.

The Court has power to settle disputes about the parties' family assets, including the power to order a transfer of legal interests in property. When dealing with these disputes, the Court considers the interest each party has in the property, the financial and non-financial contributions made by each party during the marriage, and the matters the Court is required to consider in dealing with maintenance applications.

The Family Law Act also established two statutory bodies that assist and advise the Attorney-General on family law matters. They are the Family Law Council, an advisory body that is based in Canberra, and the Australian Institute of Family Studies, a research body that is based in Melbourne.

Family Court of Australia

The judges of the Family Court are chosen because of their suitability to deal with matters of family law by reason of their training, experience and personality. Staff who are attached to the Court include trained counsellors and legally qualified Registrars and Deputy Registrars.

Proceedings under the Family Law Act in the Family Court are heard in open court, although persons may be excluded from the Court by court order. Some proceedings may be heard in chambers. No publicity that identifies the person or people involved in any proceedings under the Act is permitted unless otherwise directed by the Court. The publication of law court lists and law reports, or other publications of a technical character directed to the legal or medical professions, is exempted from this prohibition.

The Family Court aims to be a 'helping' court. The Principal Director of Court Counselling and a staff of court counsellors assist the parties to a marriage to settle their problems. This help is available whether or not the parties are contemplating divorce or other proceedings. These services complement those already provided by voluntary marriage counselling agencies. People may approach the Court counselling service by calling in person, by writing or telephoning, or by making an approach through a legal practitioner.

State and Territory Courts

Australian State and Territory courts have original jurisdiction in all matters brought under State or Territory statute laws, and in matters arising under Federal laws, where such matters have not been specifically reserved to courts of federal jurisdiction. Most criminal matters, whether arising under federal, State or Territory law, are dealt with by State or Territory courts.

Each State and Territory court system is organised and operated independently. However, within each system, the courts are organised hierarchically according to the nature of the matters with which they may deal.

Appeals

The various State County and District Courts and State and Territory Supreme Courts have jurisdiction to hear appeals against the decisions of lower courts and some specialist tribunals in their respective jurisdictions. The procedures concerning the right of appeal are laid down by statute in each State and Territory and appeals may be lodged against matters such as the correctness of the verdict or the severity of the sentence imposed.

Special courts and tribunals

Each Australian State and Territory administers particular areas of the law through specialist courts or tribunals, such as Small Claims Courts and Licensing Courts. These courts or tribunals deal primarily with civil matters or matters of an administrative nature.

Courts of Marine Inquiry

Matters which come within the jurisdiction of Courts of Marine Inquiry are contained in the federal *Navigation Act 1912*. The principal areas of these Courts' jurisdiction are to make inquiries into casualties, all missing ships, events entailing loss of life on or from ships, and charges of incompetency or misconduct.

When the Commonwealth Department of Transport and Communications is advised of an incident which may warrant the convening of a Court of Marine Inquiry, the Minister is required to appoint an officer to conduct a preliminary investigation. The officer then conducts interviews with the parties involved and, based on the results of these interviews, advises the Minister as to whether or not the circumstances warrant a request by the Minister for a Court of Marine Inquiry to be convened. The Governor-General, by proclamation, establishes the Court of Marine Inquiry. Findings of the Court are forwarded to the Minister.

Statistics

Information relating to the operation of courts in particular Australian States may be obtained from the respective State *Year Books* and from ABS publications relating to criminal matters finalised in the Courts.

Administrative Bodies

Administrative Appeals Tribunal

The Administrative Appeals Tribunal was established by the *Administrative Appeals Tribunal Act 1975* and came into operation on 1 July 1976. Its President is a judge of the Federal Court of Australia. This tribunal is an independent body whose function is to review decisions made by Commonwealth Ministers, authorities and officials under certain laws of the Commonwealth of Australia. The Tribunal is able to substitute its own decisions in those areas in which it has jurisdiction which covers decisions made under more than 200 Commonwealth enactments, including the *Social Services Act 1947, Compensation (Commonwealth Government Employees) Act 1971, Migration Act 1958, Customs Act 1901, Export Market Development Act 1974,* the *Freedom of Information Act 1982*, the *Repatriation Act 1920* and the Air Navigation Regulations. Further additions to the Tribunal's jurisdiction are made from time to time.

The Principal Registry of the Administrative Appeals Tribunal is situated in Canberra and there are Tribunal Registries in each capital city.

The Administrative Review Council was also established by the *Administrative Appeals Tribunal Act 1975*. The principal functions of the Administrative Review Council are to make recommendations to the Attorney-General on rights of review of administrative decisions and on the procedures of administrative tribunals.

Administrative Decisions (Judicial Review) Act

The *Administrative Decisions (Judicial Review) Act 1977*, which came into operation on 1 October 1980, provides for judicial review in the Federal Court of Australia of administrative action taken under Commonwealth legislation. Where an order of review is sought by an aggrieved person, the Court is empowered to review the lawfulness of a decision, the conduct leading up to the making of a decision, or circumstances where there has been failure to make a decision. The grounds on which review may be sought and the powers of the Court are set out in the Act. In many cases, a person who is entitled to seek judicial review in respect of an administrative decision may seek a statement of reasons for the decision from the decision-maker.

Commonwealth Ombudsman

The office of the Commonwealth Ombudsman was established by the *Ombudsman Act 1976* and commenced operation in June 1977. Additional responsibilities have been given to the office through the *Complaints (Australian Federal Police) Act 1981*, and the *Freedom of Information Amendment Act 1983*.

The Ombudsman is empowered to investigate complaints about the administrative actions of Commonwealth Government departments and prescribed authorities, as well as complaints about the conduct of members of the Australian Federal Police, and its practices and procedures. The Ombudsman, acting as Defence Force Ombudsman, is empowered to investigate complaints from members or former members of the Australian Defence Force relating to service in the Defence Force or as a consequence of a person serving or having served in the Defence Force.

Complaints may be made to the Ombudsman orally or in writing. The Ombudsman may exercise a discretion not to investigate matters which:

- came to the attention of the complainant more than 12 months previously;
- may be otherwise reviewed; or
- in his/her opinion, do not warrant investigation.

In conducting investigations, the Ombudsman has extensive powers to request the production of documents and answers to questions. When an investigation has been completed, he/she considers whether or not the actions in question were illegal, unjust, oppressive, improperly discriminatory, or, in all the circumstances, wrong. He/she may also assess and report on the reasonableness of any law, rule, or policy under which these actions were taken.

Where the Ombudsman, after completing an investigation into a complaint, is of the opinion that remedial action is required, a report is made to the department or authority concerned and may include any recommendations thought fit to be made. If the department or authority fails to comply with a recommendation contained in the report, the Ombudsman may report to the Prime Minister and to the Federal Parliament.

The Central Office of the Commonwealth Ombudsman is located in Canberra and there are regional offices in Sydney, Melbourne, Brisbane, Perth and Adelaide. In Tasmania, the Commonwealth Ombudsman is represented by the Tasmanian Ombudsman and in the Northern Territory by the Ombudsman for the Northern Territory.

The Human Rights and Equal Opportunity Commission

The Human Rights and Equal Opportunity Commission was established by the Commonwealth Government on 10 December 1986 and replaces the Human Rights Commission that had existed for the previous five years. The Commission's functions relate to the promotion of understanding, acceptance and public discussion of human rights in Australia, including those set out in the following United Nations instruments:

- the Convention Concerning Discrimination in Respect of Employment and Occupation;
- the International Covenant on Civil and Political Rights;
- the Declaration on the Rights of the Child;
- the Declaration of the Rights of Mentally Retarded Persons;
- the Declaration on the Rights of Disabled Persons;
- the International Convention on the Elimination of All Forms of Racial Discrimination; and
- the Convention on the Elimination of All Forms of Discrimination Against Women.

The Commission consists of a President, a Human Rights Commissioner, a Race Discrimination Commissioner and a Sex Discrimination Commissioner—the latter two

Commissioners reflecting the basic human rights obligations and guarantees contained in the *Racial Discrimination Act 1975* and the *Sex Discrimination Act 1984* which confer specific functions on the Commission.

The major functions of the Commission include: the examination of proposed Commonwealth legislation to ascertain whether any provisions are inconsistent with, or contrary to, human rights; inquiry into practices that may be inconsistent with, or contrary to, human rights, and the settlement of matters arising therefrom by inquiry and conciliation or report to the Federal Attorney-General, as appropriate; undertaking research and educational programs relating to human rights; and the examination of international instruments to ascertain whether changes need to be made in domestic laws to comply with unconditional agreements to which Australia is a party.

The *Human Rights and Equal Opportunity Commission Act 1986*, which established the Commission, also empowers the Federal Attorney-General to enter into arrangements with the Australian States in relation to the performance on a joint basis of any of the Commission's functions; the performance by a State of any of the Commission's functions; or performance by the Commission of any functions on behalf of a State relating to human rights or discrimination in employment or occupation.

Where the Commission considers an amendment in federal law or practice is needed, the Commission is required to report to the Attorney-General and such reports are required to be made public by tabling in the Federal Parliament. The Commission is also required to furnish annual reports to the Attorney-General.

Freedom of Information Act

The *Freedom of Information Act 1982*, which came into operation on 1 December 1982, has two objectives:

- to make available to the public information about the rules, practices and operations of Commonwealth Government departments and authorities; and
- to create a general right of access to documents in the possession of Ministers and agencies.

In order to achieve these objectives the Act defines the rights of members of the public to obtain access to documents, and sets out a range of obligations and restrictions on departments and the public for exercising these rights.

The right of access does not extend to all documents. Exempt are:

- certain documents to which the *Archives Act 1983* applies;
- documents affecting national security, defence, international relations and relations with States;
- Cabinet and Executive Council documents;
- internal working documents (subject to certain limitations on what may be exempt);
- documents affecting enforcement of the law and protection of public safety;
- other documents exempt by reason of secrecy provisions of other enactments, financial or property interests of the Commonwealth, personal privacy, legal professional privilege, etc.;
- documents made available for purchase or open access upon payment of a fee; and
- documents created before 1 December 1977.

However, there are two exemptions to this last restriction on access:

- a person has a right of access to documents created before 1 December 1977, necessary to the understanding of a document already legally in that person's possession; and
- individuals have the right of access to documents which pre-date the commencement of the Act by up to five years, providing that the documents relate to the individual.

The public is not required to provide reasons for requesting access to documents. However, all requests under the Act should be in writing and provide such information concerning the document as is reasonably necessary to enable a responsible officer to identify the document. Where a person wishes to make a request, or has made a request that does not comply with the provisions of the Act relating to requests for access, it is the duty of the agency to take reasonable steps to assist the person to make the request in a manner that complies with the Act.

Provisions exist whereby a person may apply to have an amendment made to information relating to that person's own personal affairs.

The Act contains extensive provisions for review of decisions made under the Act, including review by the Administrative Appeals Tribunal and the Commonwealth Ombudsman.

Commonwealth Royal Commissions

Australian Governments have from time to time established Royal Commissions to inquire into, and report on, matters of public concern.

A Royal Commission is established by the Governor-General, on the advice of the government, by issuing a commission to a person or persons to inquire into and report on specified matters. At the end of its inquiry, a Royal Commission presents its report to the Governor-General for consideration by the government. These reports are usually tabled in the Commonwealth Parliament.

The power to issue Letters Patent to inquire is a prerogative of the Crown. The *Royal Commissions Act 1902* confers powers on a Royal Commission to compel the attendance of persons, the giving of evidence, and the production of papers. It also creates a number of offences (e.g. failure to attend a Royal Commission when summoned, or failure to produce papers) and gives some protection to Commissioners and witnesses against legal liability. The constitutional foundation of the Royal Commissions Act is section 51(xxxix) of the Constitution, which provides that the Commonwealth Parliament may make laws with respect to 'matters incidental to the execution of any power vested by this Constitution in the Parliament or in either House thereof, or in the Government of the Commonwealth, or in the Federal Judicature, or in any department or office of the Commonwealth'.

LETTERS PATENT ISSUED FROM 1.7.84 TO 30.6.88

Name of Royal Commission	*Commissioner(s)*	*Date of issue of Letters Patent*
Royal Commission into British Nuclear Tests in Australia Between 1952 and 1963	THE HON J.R. McCLELLAND MRS J. FITCH DR W.J.A. JONAS	16 July 1984
Royal Commission of Inquiry into Alleged Telephone Interceptions	THE HON. MR JUSTICE. D. G. STEWART	29 March 1985
Royal Commission of Inquiry into the Chamberlain Convictions	THE HON. J.R. MORLING	2 April 1986
Royal Commission into Grain Storage, Handling, and Transport	MR JAMES CARVELL McCOLL	13 October 1986
Royal Commission into Deaths in Custody of Aboriginals and Torres Strait Islanders	THE HON. J.R. MUIRHEAD THE HON. E.F. JOHNSTON THE HON. J.G. WOOTTEN MR LEWIS WYVIL, QC	16 October 1987 21 December 1987 6 May 1988 6 May 1988

FINAL ROYAL COMMISSION REPORTS PRESENTED FROM 1.7.85 TO 30.6.88

Name of Royal Commission	*Date of presentation*	*Tabled in Parliament*
Royal Commission of Inquiry into the Activities of the Nugan Hand Group	4 July 1985	27 November 1985
Royal Commission on the Use and Effects of Chemical Agents on Australian Personnel in Vietnam	31 July 1985	22 August 1985
Royal Commission into British Nuclear Tests in Australia between 1952 and 1963	20 November 1985	5 December 1985
Royal Commission of Inquiry into Alleged Telephone Interceptions	30 April 1986	1 May 1986
Commission of Inquiry into Compensation Arising from Social Security Conspiracy Prosecutions	30 April 1986	10 June 1986
Royal Commission of Inquiry into the Chamberlain Convictions	22 May 1987	2 June 1987
Royal Commission into Grain Storage, Handling, and Transport	18 February 1988	15 March 1988

Consumer affairs

The Commonwealth involvement in consumer affairs derives substantially from the *Trade Practices Act 1974*. The Federal Attorney-General has responsibility for Part V (Consumer Protection) of the Act which deals with unfair practices, provides private law rights against sellers, manufacturers and importers, and provides for product safety (including provision for the banning and/or recall of goods considered to be unsafe) and information standards.

The Federal Bureau of Consumer Affairs, located in the Attorney-General's Department:

- provides the Minister for Consumer Affairs with advice on the consumer protection provisions of the Trade Practices Act and on a range of consumer issues;
- reviews and develops Commonwealth policy on domestic food and beverage standards, recalls and consumer product safety;
- reviews and develops Commonwealth policy on packaging and labelling; and
- administers product safety and information standards of the Trade Practices Act, including monitoring and enforcing compliance with standards and initiating product recalls if necessary.

The National Consumer Affairs Advisory Council provides independent advice to the Minister for Consumer Affairs on consumer affairs issues. The members of this Council have backgrounds in consumer affairs, industries, trade unions and government.

The Trade Practices Commission is generally responsible for the administration and enforcement of the Trade Practices Act, except for Division 1A Part V of the Act which is the responsibility of the Federal Bureau of Consumer Affairs. The Commission receives complaints from consumers but is primarily concerned with issues of national significance. The activities of the Trade Practices Commission are distinct from those of Australian State and Territory consumer affairs agencies, which administer their own legislation and provide the principal consumer complaint handling mechanisms.

Coordination of consumer affairs activities is undertaken by the Standing Committee of Consumer Affairs Ministers and through meetings of Officers of Consumer Affairs. There is also a Commonwealth–State Consumer Products Advisory Committee to provide a coordinated approach to product safety and information matters.

In addition to this, the Australian Federation of Consumer Organisations receives an annual grant under the Commonwealth's Grant-in-Aid Scheme. The Australian Federation comprises a membership of 56 consumer and community groups and was established with Federal sponsorship to represent the consumer view to all levels of Australian government and industry.

Legal Aid

The purpose of providing legal aid is to ensure that no person involved in a legal dispute or action should be without legal assistance by reason of not being able to pay for it, and is based on the notion of justice and equity before the law.

Legal aid in Australia is delivered through a variety of schemes operated at Federal, State and local levels. The principal schemes are those of the Australian Legal Aid Office, the legal aid commissions (which operate in five States and the Australian Capital Territory) and the Aboriginal legal services. In addition there are numerous community based legal aid agencies and certain law society schemes.

It is now the policy of the Commonwealth Government that legal aid other than that given by Aboriginal legal services and voluntary and community agencies be provided in each State and Territory through a single independent statutory commission, established by State or Territory legislation. Under this policy, legal aid is provided by both salaried and private lawyers and funded by the Commonwealth of Australia in federal matters. The States continue to fund legal assistance provided in relation to State matters. Pursuant to agreements between the Commonwealth and the States, independent statutory commissions providing legal advice and assistance in both federal and State matters have been established in Queensland, South Australia, Victoria, Western Australia and the Australian Capital Territory. A statutory commission has also been established in New South Wales, but its functions do not extend to federal matters. Legal aid commissions have not yet been established in Tasmania and the Northern Territory, and in these places, as well as New South Wales, the Australian Legal Aid Office continues to provide legal advice and assistance in federal matters.

The Commonwealth Attorney-General administers a growing area of legal assistance in special federal areas outside the scheme of independent statutory commissions. This assistance is provided under various Commonwealth Acts (such as the *Conciliation and Arbitration Act 1904*, *Administrative Appeals Tribunal Act 1975* and the *Trade Practices Act 1974*) and administrative schemes (e.g. aid for Public Interest and Test Cases and for cases involving the recovery of children who have been illegally removed overseas).

Selected details of the income and expenditure of major Australian Legal Aid schemes and further information on the operation of these schemes are available from Annual Reports of the former Commonwealth Legal Aid Council and the Commonwealth Attorney-General's Department.

The Police

The principal duties of the police are the prevention and detection of crime, the protection of life and property, and the enforcement of law to maintain peace and good order. In addition, they may perform a variety of other duties in the service of the State, including the regulation of street traffic, acting as clerks of petty sessions, Crown land bailiffs, foresters, mining wardens and inspectors under the Fisheries and other relevant Acts. With the exception of the Australian Federal Police, police forces in Australia are under the control of the respective State and Northern Territory governments, but their members perform certain functions on behalf of the Australian Government, such as the registration of aliens, and, in conjunction with the Australian Federal Police and other Commonwealth officers, they enforce various Commonwealth Acts and Regulations.

Australian Federal Police—AFP

The Australian Federal Police was formed in October 1979 and has its headquarters in Canberra, with regional offices in each capital city and in a number of provincial towns and cities.

The AFP is the primary law enforcement agency for the Commonwealth. It is responsible for providing police services in relation to the laws and property of the Commonwealth, and the safeguarding of Commonwealth interests. The priorities of the AFP as listed in its charter of objectives include investigations into drug trafficking, organised crime, large-scale fraud against Commonwealth revenue, specific references from the Government (e.g. corruption), Australian Capital Territory policing and counter-terrorism.

In the Australian Capital Territory, the AFP provides a full range of general policing services, including traffic control, special operations, search and rescue services and conventional crime investigations.

From 1984 to 31 July 1988, the AFP was also responsible for the direction and coordination of Australia's coastal surveillance, response and enforcement. Following a Government decision the function was transferred to the Australian Customs Service with effect from 1 August 1988.

The AFP also posts officers for duty overseas. Officers are located in liaison posts in Bangkok, Hong Kong, Interpol in Paris, Islamabad, Jakarta, Kuala Lumpur, London, Los Angeles, Manila, Singapore, Washington and Wellington. These liaison officers play a vital role in gathering and exchanging information. The Australian National Central Bureau of the International Police Organisation (ICPO—Interpol) in Australia is staffed by AFP officers as a service to all Australian law enforcement agencies. The AFP also has a contingent based in Cyprus as a component of the United Nations Peace-keeping Force, and officers serve as members of the police forces of the Australian Territories of Christmas Island and Norfolk Island.

Police strengths

The total active strength of the sworn police forces, expressed as a proportion of the population, has remained steady from 1982 to 1987 at approximately 220 police for every 100,000 people. The following table shows the active strengths of non-civilian police personnel in police forces in Australia from 1985 to 1987. Further detail on the operations of each force may be found in the respective police annual reports to their Ministers.

POLICE FORCES

Year	*AFP(a)*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*
At 30 June—								
1985	2,477	10,608	8,444	4,775	3,373	2,890	1,019	662
1986	2,568	10,743	8,732	4,872	3,492	3,168	1,025	669
1987	2,642	11,608	8,796	5,072	3,646	3,287	1,010	681

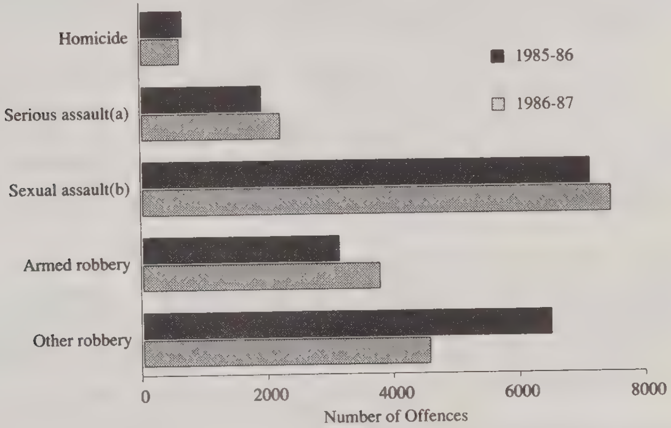
(a) Excludes protective services units.

Crime Statistics

The compilation of statistics on crime involves recording and classifying a diversity of acts considered to be criminal. Responses to the 1983 Crime Victims Survey, conducted by the Australian Bureau of Statistics, indicated that only about 59 per cent of household victimisations and 44 per cent of personal victimisations were reported to police, and although the extent of reporting of crime may vary from time to time according to the amount of public attention focussed on particular aspects of crime, there will always be some degree of underreporting.

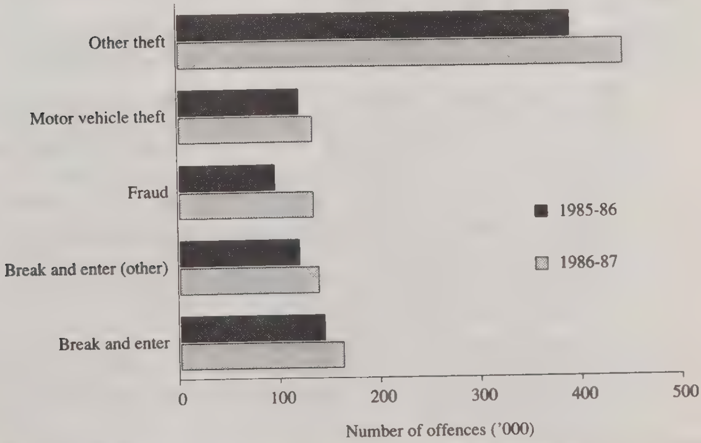
The following charts of selected offences show the numbers of offences in certain categories of crime which were reported to the police for the two years to 30 June 1985 and 30 June 1986. Not all jurisdictions employ the same definitions when classifying offences and the figures should therefore be treated with caution. However, the movements in figures from year to year are an indicator of the movements in levels of crime reported to the police.

SELECTED OFFENCES AGAINST THE PERSON, AUSTRALIA
1985-86 AND 1986-87



(a) From 1985-86 includes only those assaults causing grievous bodily harm.
(b) Includes all types of sexual assaults, and therefore not comparable with data collected before 1985-86 where only rape was categorised.

SELECTED OFFENCES AGAINST PROPERTY, AUSTRALIA
1985-86 AND 1986-87



Source: Taken from the Selected Crimes Statistics Australian series, compiled by the Police Commissioners' Australian Crime Statistics Sub-committee.

Drug offences

Australia ratified the Single Convention on Narcotic Drugs 1961 in December 1967, and the Protocol Amending the Single Convention on Narcotic Drugs on 22 December 1972. Australia is also a signatory to the Convention on Psychotropic Substances 1971, and there is cooperation between Federal, State and Territory Governments, the various police forces, and other agencies in order to combat the perceived serious and growing threat to good order which is posed by the traffic in and abuse of drugs of dependence. The Australian Customs Service has responsibility for the enforcement of laws controlling the illicit importing and exporting of drugs, but each police force has a drug squad or squads, staffed by selected officers with special training and ability to understand the complexities of drug abuse and drug trafficking. Drug laws incorporate the controls and penalties for offences as required by international drug conventions.

The following table provides information about selected drug seizures by Federal agencies during the period from 1982 to 1987.

SELECTED DRUG SEIZURES BY FEDERAL AGENCIES

Type of drug	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*
			—grams—			
Opium	81.87	1,129.50	40.00	760.00	167.00	48.00
Heroin	32,014.40	97,071.65	101,550.00	57,886.00	30,937.00	60,202.00
Cocaine	8,924.87	8,797.49	13,100.00	12,801.00	21,581.00	10,226.00
Cannabis—all types*(a)*	2,530,066.37	1,725,455.28	6,912,860.00	3,129,588.00	2,987,766.00	540,046.00

(a) Excludes seizures of plants.

Further information on the widespread problems arising from drug abuse in Australia, and how these problems are being approached, may be found in the annual report 'Illicit Drugs in Australia', compiled by the Australian Federal Police and published by the Australian Government Publishing Service.

Correctional Treatment of Offenders

The term 'correction' (or its derivatives) as used here refers to the treatment of offenders within the justice system.

While there is a variety in the types of correctional activities employed in each State and Territory, such activities can be broadly categorised into two groups:

- non-continuing forms of treatment, where, if the offender meets the requirements set by court, then correctional agencies would not normally become actively involved. Examples of these forms of treatment are fines, bonds, and recognisances without supervision.
- continuing forms of treatment, where the offender is subject to some form of control by a correctional agency, usually for a specified period. This control may take the form of:
  - (i) full time custody, as in the case of persons detained in prisons, or other institutions; or
  - (ii) non-custodial treatment involving conditions to be observed by the offender, e.g. probation and parole. In recent years there has been a trend towards the greater use by courts of non-custodial treatment of offenders. This has seen the development of a range of programs such as periodic/weekend detention, attendance centre programs, and community service, under which the offender is at liberty in the community, but is required to report for weekend detention, training, counselling, or to perform unpaid work in the community.

Separate provisions exist in each State and Territory for the treatment of juvenile offenders, and courts and correctional agencies have a wide choice in the types of correctional treatments available to them. Both custodial and non-custodial correctional activities are employed, but greater flexibility allows treatment to be more closely aligned to individual requirements.

All States and the Northern Territory operate prisons and other correctional services. Convicted adult prisoners from the Australian Capital Territory serve their sentences in New South Wales prisons, but local provision is made for the short-term custody of remand prisoners, and for probation and parole services. The Federal Government does not operate any prisons or other correctional services, and Federal offenders (i.e. persons convicted of offences under federal laws) fall within the jurisdiction of State agencies for correctional purposes.

Prison occupancy

The Australian Institute of Criminology publishes the results of an annual prison census which is coordinated by the National Correctional Statistics Committee. The census relates to all persons, convicted or not convicted, who were held in custody in gazetted Australian prisons, for adult offenders on the night of 30 June, and includes those prisoners temporarily absent from prison (e.g. prisoners in hospitals, or away on work release schemes).

Because the census measures prison occupancy at a particular point in time, care should be taken when comparing the results with other data produced on prison populations, which may be related to average daily occupancy rates. Discrepancies may also be found between the census figures and those produced from the same data by corrections departments, because of differences in counting rules.

Data for the following tables on prison occupancy were supplied by the Australian Institute of Criminology from the results of the 1986 prison census.

NUMBER OF SENTENCED PRISONERS BY TYPE OF SENTENCE IMPOSED (a)
AUSTRALIA 1986 (b)

(*Source*: Australian Institue of Criminology.)

Type of sentence	*Number of prisoners*
Life	577
Governor's Pleasure	87
Administrative*(b)*	1
Indefinite*(c)*	4,878
Fixed term	3,908
Fine default only	206
Periodic detention	297
Unknown	30
Total	*9,984*

(a) Type of sentence is determined by the cumulative effect of all sentences imposed. *(b)* Includes unsentenced prisoners subject to deportation orders. *(c)* Refers to cases where both a minimum and a maximum term are set, and the actual sentence to be served lies somewhere between the two limits.
NOTE: This table excludes all remandees.

NUMBER OF PRISONERS BY MOST SERIOUS OFFENCE/CHARGE (a), BY AGE (b), AUSTRALIA

(*Source:* **Australian Institute of Criminology**)

	Age group								
Offence/charge(a)	*Under 20*	*20–24*	*25–29*	*30–34*	*35–39*	*40–44*	*45–49*	*50*	*Total*
				—Total persons—					
Homicide	48	204	254	210	162	138	80	110	1,206
Assault	79	224	145	106	74	42	17	19	706
Sex offences	57	211	207	164	152	97	56	92	1,036
Other against person	6	27	33	21	20	8	3	—	118
Robbery	98	507	457	269	109	48	19	20	1,527
Extortion	2	3	14	6	—	2	—	4	31
Break and enter	273	694	482	240	102	40	28	15	1,875
Fraud and misappropriation	19	73	89	92	80	49	41	52	495
Receiving	21	42	44	20	25	16	4	5	177
Other theft	208	355	211	95	56	40	26	20	1,012
Property damage	25	59	34	18	11	6	7	5	165
Environmental	—	—	1	—	—	—	1	—	2
Government security	—	2	1	4	2	—	1	—	10
Justice procedure	72	220	134	65	47	18	10	7	573
Prostitution	—	—	1	—	—	—	—	—	1
Offensive behaviour	2	7	6	5	6	3	1	6	36
Unlawful possession of weapon	5	10	7	8	11	1	2	1	45
Other offences against good order	5	30	23	24	13	5	4	3	107
Possession, use of drugs	11	52	87	76	37	19	4	2	288
Trafficking drugs	10	101	189	222	170	88	59	39	882
Manufacture drugs	2	18	28	13	21	15	19	10	126
Driving offences	28	143	115	101	50	32	16	20	505
Administrative offences	43	135	121	69	39	27	14	12	460
Other traffic offences	2	7	2	1	—	—	—	—	12
Other offences	—	6	3	14	2	3	1	1	30
Unknown	6	17	12	14	9	6	3	5	72
Total persons	*1,022*	*3,147*	*2,700*	*1,857*	*1,198*	*703*	*416*	*449*	*11,497*

(a) The most serious offence/charge is that offence for which a prisoner received the longest sentence, or that charge which carries the longest statutory maximum penalty. *(b)* The age at which a convicted person would normally become liable to imprisonment in an adult prison varies from State to State, being seventeen years in Victoria, Queensland, Tasmania and Northern Territory, and eighteen in other jurisdictions, although younger persons convicted of a particularly serious offence may be sent to an adult prison. Inmates of juvenile corrective institutions are not included in this census.
NOTE: This table includes 1,471 remandees.

NUMBER OF SENTENCED PRISONERS BY MOST SERIOUS OFFENCE (a) AND AGGREGATE SENTENCE (b), AUSTRALIA 1986
(*Source*: Australian Institute of Criminology.)

	Duration of aggregate sentence						
Offence	*Periodic detention*	*Under 3 months*	*3 months and under 2 years*	*2 and under 5 years*	*5 and under 10 years*	*10 years and over(c)*	*Total*
Homicide	3	—	10	63	138	779	993
Assault	20	37	255	125	97	59	593
Other offences against the person	13	—	64	252	406	267	1,002
Robbery	11	—	20	226	616	467	1,340
Extortion	1	—	2	12	7	6	28
Break and enter	24	19	533	649	353	73	1,651
Fraud and misappropriation	17	29	164	160	55	12	437
Receiving	11	10	69	47	19	4	160
Other theft	38	41	509	236	56	14	894
Property damage	3	11	46	36	25	12	133
Offences against good order	18	90	320	186	59	30	703
Drug offences	60	28	212	277	294	191	1,062
Driving offences	40	118	299	23	—	2	482
Administrative offences	34	54	349	13	1	—	451
Other offences	4	14	11	2	5	19	55

(a) Most serious offence is that for which a prisoner received the longest sentence. *(b)* The longest period that a person may be detained under sentence in the current episode. *(c)* Includes sentences of Life and Detention at the Governor's Pleasure.
NOTE: This table excludes all remandees.

Criminological Research

Australian Institute of Criminology

The Australian Institute of Criminology, which is located in Canberra, was established as a statutory authority under the *Criminology Research Act 1971* and the *Criminology Research Amendment Act 1986.* The Institute is administered by a Board of Management comprising three members appointed by the Federal Attorney-General, four members representing the States and the Northern Territory, who are appointed by the Criminology Research Council and the Director, who is an ex officio member of the Board.

The functions of the Institute, as defined in the Criminology Research Acts include:

- the conduct of criminological research (i.e. research in connection with the causes, prevention and correction of criminal behaviour and related matters), and the communication of the results of such research to the Commonwealth and States;
- the provision of advice on needs and programs relating to criminological research, and advice and assistance in relation to any research funded through the Criminology Research Council;
- the conduct of seminars and courses of training and instruction for persons engaged in criminological research or work related to the prevention or correction of criminal behaviour;
- the collection and dissemination of statistics relevant to crime and criminal justice;
- the provision of advice in relation to the compilation of statistics in relation to crime;
- the publishing of material resulting from, or relating to, its activities.

Since its inception, the Institute has actively assisted in and advised on an extensive range of criminological research projects either directly, or through the Criminology Research Council. The Institute has conducted or been represented at numerous national and international conferences dealing with crime related matters. In addition, the Institute maintains a comprehensive library of criminological material which is available to researchers and criminal justice practitioners.

Major recent publications of the Institute include:

- *Australian Community Based Corrections*, edited by David Biles and John Walker.
- *Australian Prisoners, 1986*, edited by John Walker and David Biles.
- *Death and Injuries on the Road*, Paul Wilson and R. Homel.
- *Information Bulletin 1986.*
- *Ivory Scales: Black Australia and the Law*, edited by Kayleen M. Hazelhurst (published in association with the University of New South Wales Press).
- *Migration, Ethnicity and Crime in Australian Society*, Kayleen M. Hazelhurst.
- *Sex, Violence and Family Entertainment, An Analysis of Popular Videos*, Stephen Nugent, Paul Wilson, Terry Brook and David Fox.
- *Corrections in Asia and the Pacific*, Proceedings of the Eighth Asian and Pacific Conference of Correctional Administrators, Kuala Lumpur, September 1987.
- *Court Support and Advisory Services*, edited by Jane Mugford.
- *Crime at School*, edited by Dennis Challinger.
- *Intellectually Disabled Offenders*, edited by Dennis Challinger.

Criminology Research Council

The Criminology Research Council is comprised of representatives from the Commonwealth, each State and the Northern Territory and is an independent body corporate established under the *Criminology Research Act 1971*. The Council is responsible for the control and administration of the Criminology Research Fund, which is funded fifty per cent by the Federal Government, and fifty per cent by State governments on a proportionate population basis. Subject to the Council's assessment of a project, persons seeking to conduct criminological or related research may be provided with a grant from the fund.

In its first fifteen years of operation, the Council has provided grants for over 150 separate research projects, covering nearly all aspects of crime and criminal justice in Australia, to a total of approximately two million dollars.

Bankruptcy and Copyright

Bankruptcy

Particulars of bankruptcy in each State to the end of 1927 were incorporated in issues of the *Year Book* before No. 23. On 1 August 1928, the first Bankruptcy Act of the Commonwealth came into operation. This Act as amended was repealed by the *Bankruptcy Act 1966* which came into operation on 4 March 1968.

The Federal Court of Australia, and a number of State courts and the Supreme Court of the Northern Territory, are all invested with jurisdiction in bankruptcy. In practice, the Federal Court exercises bankruptcy jurisdiction in the districts of New South Wales and the Australian Capital Territory, Victoria, South Australia, Western Australia, and the Southern District of Queensland. In the Central and Northern Districts of Queensland, and in Tasmania and the Northern Territory, the jurisdiction is exercised by the respective Supreme Court of the State or Territory.

The Bankruptcy Act provides for an Inspector-General in Bankruptcy who has a range of statutory functions under the Act. In particular, the Inspector-General shall carry out inquiries and investigations at the direction of the relevant Minister, and such other inquiries and investigations as the Inspector-General thinks fit. The Act also provides for a Registrar in Bankruptcy to be appointed for each of the nine Bankruptcy Districts in Australia, and for so many Deputy Registrars in Bankruptcy as are necessary. Each Registrar and Deputy Registrar has such powers and functions as are conferred or imposed on a Registrar by the Act. Powers and functions of an administrative nature are exercisable by the court as the court directs or authorises the Registrar to exercise. The Registrar may examine a bankrupt, the spouse of a bankrupt, and a person indebted to a bankrupt or having in his or her possession any of the estate or effects of a bankrupt.

There is an Official Receiver for each District and the Official Receivers together constitute a body corporate known as the 'Official Trustee in Bankruptcy'. The Official Trustee is the trustee in bankruptcy in approximately 80 per cent of the bankrupt estates occurring each year. In the remaining 20 per cent the trustee is a registered trustee in bankruptcy from the private sector.

Comprehensive statistics on bankruptcy are included in the Annual Report on the Operation of the *Bankruptcy Act 1966* which is laid before each House of Parliament pursuant to section 314 of the Act.

Copyright

Copyright in Australia is administered by the Commonealth Attorney-General's Department, and is regulated by the Commonwealth *Copyright Act 1968* which came into force on 1 May 1969. The Act does not contain any provisions requiring or enabling the completion of formalities (such as publication, registration or the payment of fees) in order to obtain copyright protection in Australia. Protection is granted automatically from the moment of making a work or other subject matter.

The Act has been amended from time to time. The *Copyright Amendment Act 1980* and the *Statute Law (Miscellaneous Provisions) Act (No. 2) 1984*, in particular, contain substantial changes in a number of areas including fair dealings, copying by libraries and archives, and copying for educational purposes and for handicapped readers.

The *Copyright Amendment Act 1984* makes specific provision for copyright in computer software.

The Principal Act was further amended in 1986 and 1987 to, among other things:

- significantly strengthen the 'anti-piracy' provisions of the Act;
- increase access to copyright materials for the handicapped, as well as for libraries, archives and their clients;
- extend fair dealing;
- make clear the fact that broadcasts via satellite are subject to the Act; and
- provide for costs in Copyright Tribunal matters to be calculated on the Federal Court of Australia scale of costs.

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12

CULTURE, RECREATION, ENVIRONMENT AND TOURISM

Culture is essential to a shared sense of quality of life, and takes many forms. At a national level these forms range across cultural heritage, creative and performing arts, film and video, radio and television, sports and games, language and religious practice, adult education, active attachment to custom and place, and activities around the conservation and enjoyment of the natural environment.

Tourism is closely bound to cultural life. Cultural venues and events attract visitors; events and institutions are linked both to tourist patronage and to support from local populations, while a general perception of cultural vitality is an important factor in drawing visits from overseas.

This chapter reviews cultural activity supported by the Commonwealth and its agencies, and by national non-government cultural agencies.

Statistics on travel and tourism, complementing the monitoring and promoting role of government, are also included.

CULTURAL HERITAGE

Australia's heritage is drawn from cultural environments, both built and natural, in all their aspects. The built environment includes Aboriginal sites of all types—from cave paintings to fish-traps and carved trees. Historic places such as old residential and commercial buildings, shipwrecks, parks and gardens are also included. The natural environment ranges from national parks, nature reserves, habitats of endangered species and wilderness areas, to outstanding geological features and landscapes. Sites and objects of scientific, archaeological and social importance are also included.

The functions of identifying, cataloguing, surveying, conserving and protecting the national heritage are shared between governments and statutory authorities, with assistance from community organisations, such as the national trusts in each State, and individuals.

Consolidated statistics relating to cultural heritage are not available, although information on specific funding programs, such as the National Estate Grants Program, and discrete activity by individual organisations is published in various annual reports and, for broader sectors, through the reports of special inquiries.

The Register of the National Estate, compiled and maintained by the Australian Heritage Commission, is an inventory of national heritage. It encompasses monuments, assemblages, sites and objects, all of which have been recognised for their intrinsic value to the nation.

Governments support delineation and conservation of heritage material through the funding of public collections, the establishment of statutory authorities charged with providing policy advice and undertaking or sponsoring research, and administration of grants in support of heritage related activity.

While the Commonwealth Government works in partnership with State and Territory governments, it also undertakes heritage activities on its own account where implications of these actions go beyond State or local boundaries; for example the nomination of sites for world heritage listing, and the protection of Aboriginal heritage. The former function is administered by the Department of the Arts, Sport, the Environment, Tourism and Territories, the latter by the Aboriginal and Torres Strait Islander Commission.

Aboriginal Cultural Heritage

History

Aboriginals have lived in Australia for at least 40,000 years. As pre-settlement Aboriginals left no written records, deduction from archaeological and anthropological evidence is the principal process in amending and advancing new theories about their history.

Aboriginals are generally thought to have originated on the south-east Asian mainland and to have come to Australia over an island network that existed during the last Ice Age. The sea was then much lower and the distance between islands probably only 60 kilometres. The sea travel that was undertaken by these early migrants is believed to be the earliest evidence of sea navigation by humankind.

Some scientists suggest, on the findings of early human skeletal types, that there may have been two or more migrations of different peoples who eventually merged to become what are now termed Australian Aboriginals.

For tens of thousands of years Australia was isolated from the island archipelagos to its north. In this time the Aboriginals developed a materially simple but highly complex culture.

Aboriginals lived as hunter-gatherers, often moving in a seasonal pattern between permanent or semi-permanent encampments. The types of foods hunted and collected varied widely but studies of Aboriginal foods have concluded that traditional diets were often highly nutritious and well balanced.

Groups of people who spoke a common language held hunting rights and religious sanction over particular areas. The size of the pre-colonial Aboriginal population is not known with accuracy, but estimates range from 300,000 to more than one million. At the start of the colonial period there were about 200 languages and many more dialects.

Despite their linguistic diversity, Aboriginals shared central themes in their traditions. They saw humankind as part of nature. They identified, in a variety of forms, great creatures, heroes of a creation era generally referred to as the Dreamtime, which travelled through the land giving it form.

Although groups were bound to their local environment by systems of belief expressed in oral tradition, art, songs, dance and social relationships there is evidence of long distance travel. Aboriginals had disciplined societies with complex kinship structures. Authority within small groups was held by older people who had earned the right to enforce laws.

Archaeology

Australian archaeology has surged since the 1960s. Of some 30 Ice Age sites already discovered, that comprising 9,000–15,000 year-old graves of 40 individuals at Kow Swamp in northern Victoria is described by archaeologist Dr Josephine Flood of the Australian Heritage Commission as ‘the largest single population of the late Pleistocene epoch found anywhere in the world’.

Australian Institute of Aboriginal Studies

The Australian Institute of Aboriginal Studies was established by the Commonwealth Parliament in 1964. Its functions are to promote Australian Aboriginal and Torres Strait Islander studies in areas such as the arts, education, languages, health, history, archaeology, sociology and anthropology.

Based in Canberra with a staff of 57, the Institute's affairs are conducted by a 22 member council, while day to day business is directed by the Principal.

The Institute is now central to Aboriginal studies research. It is the largest library resource centre for information about the traditional and contemporary cultures and life styles of Aboriginal and Torres Strait Islander people. Tapes, pictures and photographs which are unique records of Aboriginal and Torres Strait Islander culture are preserved in environmentally controlled vaults.

The Institute supports research through the provision of grants and the employment of research staff, including visiting research fellows, and publishes some of the works resulting from the research and material from other sources. It publishes books on all aspects of Aboriginal studies: microfiche, musical recordings on disc and cassette, a twice yearly journal, an annual bibliography of material accessioned into the library and an annual report.

The Institute's film unit has been responsible for producing or sponsoring a wide variety of ethnographic films. The unit has also expanded into video production.

Aboriginal heritage protection

The Aboriginal and Torres Strait Islander Commission has responsibility for the administration of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

The Act preserves and protects places, areas and objects of particular significance to Aboriginal tradition. Initially enacted as interim legislation in June 1984, the Act was amended during 1986 to remove the clause relating to its expiration two years after enactment. The Act was amended in 1987 to incorporate provisions for the preservation of Aboriginal cultural heritage in Victoria.

The legislation complements existing State and Territory laws, and is intended to be used only as a last resort where those laws do not provide effective protection from injury or desecration for significant areas and objects.

Aboriginal art

Australian Aboriginal art represents possibly the oldest living continuous art tradition in the world and is the product of a culture which has developed over a period in excess of 40,000 years. Traditionally art was, and is, integrated with community life and the spiritual beliefs of Aboriginal people. The various forms of artistic expression, the visual arts, music, song and dance are inextricably connected and often serve to represent and enhance sacred stories and beliefs about the spirit ancestors who created and shaped the land and who gave to their descendants all sacred law, customs and ritual.

While the past 200 years has seen the erosion of much of the traditional fabric of Aboriginal lifestyle, a large and rich body of artistic heritage has survived and in parts of Australia continues to develop in traditions unbroken for thousands of years. In many communities the arts remain an integral part of social and religious life but have also acquired the new emphasis of reinforcing Aboriginal identity and asserting traditional values in the face of an encroaching wider community. For many artists and craftspeople, the arts also provide an important and culturally relevant means of income.

The Aboriginal artists are perhaps still best known for a Northern Australian tradition of painting with natural ochres on prepared sheets of eucalyptus bark. However this is just one aspect of the rich and varied forms of expression in the visual arts and crafts which include ceremonial body decoration, ground painting and sculpture, wood carving and fibre crafts.

In recent years there has been increased adaptation and use of non-traditional media by Aboriginal artists in remote tribal communities as well as by a growing movement of urban and rural based artists. For example, paintings on board and canvas, print making and adapted batik techniques have become important media for expression in the visual arts for numbers of artists in Central Australian communities.

Similarly the traditional performing arts which include music, complex song cycles, dance and mime, vary considerably in form throughout Australia. However all the traditional arts present a unique spirituality which gives a distinctiveness to Aboriginal cultural expression.

In recent years there has been wider community interest in and appreciation of the Aboriginal arts in Australia and overseas. This has extended to both the work of traditional artists often working in remote tribal communities as well as an emerging movement of urban based Aboriginal artists. Within the urban movement visual and performing artists are practising in all forms and media.

The Government is committed to the encouragement and recognition of Aboriginal arts. Since 1973 assistance has been provided through the Aboriginal Arts Board of the Australia Council which has established a wide range of programs to assist Aboriginal initiatives. The Board has an all Aboriginal membership.

National Estate

The Commonwealth Government, in conjunction with States and Territories, actively seeks the protection of Australia's national estate.

National Estate Grants Program

The Program is designed to help the States and Territories, and organisations within them, to conserve national estate. It is a Commonwealth Constitution 'Section 96' scheme operated under the provisions of the *Urban and Regional Development (Financial Assistance) Act 1974* and under agreements between the Commonwealth and each State and the Northern Territory.

The Program is coordinated by the Department of the Arts, Sport, the Environment, Tourism and Territories in liaison with State and Territory authorities. The Australian Heritage Commission provides professional and technical advice to the Commonwealth on aspects of project selection, and uses consequent documentation in its compilation and maintenance of the Register of the National Estate.

Under current arrangements, State and Territory governments have the primary responsibility for developing and administering their respective programs.

Project work is carried out by State and Territory government departments and authorities, local government bodies, academic institutions, national trusts, professional and community organisations as well as by individual consultant firms working for them.

Australian Heritage Commission

The Australian Heritage Commission, established under the *Australian Heritage Commission Act 1975*, advises the Federal Government on the protection of the National Estate. In summary, its responsibilities are to:

- prepare and maintain a register of national estate places;
- advise the Minister of the Arts, Sport, the Environment, Tourism and Territories on all matters relating to the national estate;
- develop policies and programs for research, professional training and public education.

The Australian Heritage Commission consists of a part-time chairman and up to six part-time commissioners with interests in the natural and cultural environment. The Commission is supported by a secretariat located at Casey House, Canberra.

In 1988–89, the Commission's appropriation was $2.6 million, with a human resource allocation of 28 staff years.

The Commission's major task is the development of the Register of the National Estate.

The term 'national estate' is a very broad-ranging concept. In the legislation, the national estate is defined as:

> . . . those places, being components of the natural environment of Australia, or the cultural environment of Australia, that have aesthetic, historic, scientific or social significance or other special value for future generations as well as for the present generation.

It thus consists of all those places which have been identified as worth keeping and handing on to future generations. Such places include wildlife habitats, natural ecosystems, landscapes of great beauty, grand buildings and structures, humble dwellings, work places, ruins, sites of historic events and Aboriginal places such as dreaming tracks, rock art sites, ceremonial and archaeological sites. Portable objects, such as paintings and works of art are not included.

At 30 June 1988, the number of places in the Register of the National Estate totalled 8,513. Another 361 places were included in the Interim List.

A major undertaking during 1987–88 was the updating and refinement of the criteria upon which the Commission assesses nominations to the Register of the National Estate and decides whether or not to list them.

During the year, the Commission allocated almost $200,000 under its own small research program, the Australian Heritage Research Program. It also spent $250,000 on its community relations program which is designed to increase public awareness of National Estate issues. Activities under the latter program included educational resources, publications, film production, workshops and seminars, the establishment of a national bibliographical database, HERA, and the operation of a small specialised library.

National trusts

The national trust bodies were set up to further the conservation of lands, buildings, works and articles which are of heritage importance because of educational, aesthetic, historic, architectural, artistic, scientific, cultural or other special interests.

The first trust, the National Trust of Australia (New South Wales), was formed in 1945. Since then, trusts have been formed in each State, the Northern Territory and the Australian Capital Territory.

Membership of the national trusts is open to all individuals and organisations. Total membership throughout Australia is approximately 80,000.

About 300 properties are owned or controlled by the trusts. These properties include houses, nature reserves, gardens, two paddle steamers and an iron barque, an historic hamlet, and buildings which were formerly a telegraph station, a stock exchange, a powder magazine, a market, an inn, a police station, a court house, a gaol and a joss house.

The various trusts have established heritage registers which collectively list more than 23,000 places throughout Australia including buildings, urban areas, landscapes and industrial sites.

For Australia's Bicentennial Year, the National Trust Movement and AMATIL Limited formed a partnership to present 'A Gift to the Nation' which has enabled the restoration of 13 major heritage projects in all States and the Northern Territory. The National Trust also received sponsorship from the Commonwealth Bank for the restoration of six properties.

Historic shipwrecks

Around Australia's coastline lie many old shipwrecks of historic value. The oldest recorded shipwreck in Australian waters is that of the *Tryall* (1622), an English whaling vessel which sank off Western Australia.

Vessels which navigated oceans to reach Australia for trade, commerce and transport carried all the necessities to sustain life for the voyage. Many such vessels were wrecked and have been preserved to a greater or lesser degree in the seabed environment and are thus time-capsules revealing the customs and skills of an earlier age.

Notable examples are the old Dutch wrecks off Western Australia, the *Batavia* (1629), *Gilt Dragon* (1656), *Zuytdorp* (1712) and *Zeewijk* (1727) and the British ships HMS *Sirius* (1790), wrecked off Norfolk Island and the *Pandora* (1791), wrecked on the Great Barrier Reef.

Shipwrecks provide direct evidence of the exploration of Australia, of the first industries such as sealing, whaling and trading, and of the perils facing convicts and migrants who voyaged to Australia. Relics of international maritime heritage are worthy of protection, conservation and study. Their importance for education, recreation and tourism is recognised by the Commonwealth *Historic Shipwrecks Act 1976* which applies to the coastal waters off all Australian States and Territories. Under this Act, any person finding the remains or relics of a previously unreported ship must notify its location to the Commonwealth Minister for the Arts, Sport, the Environment, Tourism and Territories. If the wreck is declared as being 'historic', the Minister is empowered to pay the finder a reward not exceeding $50,000.

Protection of Movable Cultural Heritage Objects

The *Protection of Movable Cultural Heritage Act 1986* provides safeguards for the retention of important elements of national cultural heritage by requiring export permits for all objects of cultural significance which owners wish to send or take out of the country.

One category of objects, the loss of which would cause irreplaceable damage to Australia's cultural heritage, will not be allowed to leave, namely objects of Australian Aboriginal and Torres Strait Islander heritage comprising bark and log coffins, human remains, rock art, and carved trees.

Objects that may be exported (temporarily or permanently) at the discretion of the Minister of the Arts, Sport, the Environment, Tourism and Territories include:

- Aboriginal objects;
- archaeological objects;
- objects of geological, scientific or technological interest;
- military objects;
- pieces of decorative art, fine arts, books, film and sound recordings;
- numismatic and philatelic objects;
- objects of social history.

National Collections

The Commonwealth has maintained extensive collections since Federation. The establishment of the Historic Memorials Committee in 1911 and the establishment of the Australian War Memorial and the Australian Institute of Anatomy in the mid 1920s signalled acceptance by the Commonwealth Government of its role to acquire, display and maintain national collections. The collections of the Parliamentary and National Libraries had a similar early start.

Almost all government institutions since Federation have maintained collections in recognition of the nation's development and cultural identity and of the value which future generations would place on them. Even comparatively new institutions such as the Australian National Gallery, the National Museum of Australia and the National Film and Sound Archive have origins going back some considerable time.

Australian War Memorial

The Australian War Memorial commemorates Australian servicemen and women who died as a result of wars or war-like operations, from the Sudan campaigns to Vietnam. The Memorial building opened in Canberra in 1941.

The commemorative area includes the glass-mosaic Hall of Memory, cloisters containing bronze panels of the Roll of Honour bearing 102,000 names, and the courtyard in which there is a Pool of Reflection and the Eternal Flame. The names of the 30 main theatres of war in which Australian forces served are inscribed around the courtyard. The national Anzac Day and Remembrance Day services attended by the Governor-General are held at the Stone of Remembrance in front of the building. Other wreath-laying ceremonies are also conducted at the Commemoration Stone in the courtyard.

The Memorial also fulfils its commemorative role by being a significant museum, art gallery, and centre of research into Australian military history. It also houses one of Australia's finest military bookshops. The Memorial's vast and varied collections include over 50,000 war relics ranging from aircraft to commemorative badges, 12,000 works of art by leading Australian artists, including Nolan, Dobell, Streeton and Lambert, and 8,000 posters, as well as extensive valuable official and personal documents and audio-visual records. The Memorial houses 43 Victoria Crosses, the largest such collection in the world. The War Memorial and its surrounds were entered in the Register of the National Estate in 1981, and attract approximately one million visitors each year.

Australian National Botanic Gardens

The Australian National Botanic Gardens occupy a 90 hectare site on the lower slopes of Black Mountain in Canberra. Over 40 hectares of this site are developed at this stage. Officially opened in 1970, they comprise the largest living collection of Australian native plants with over 7,000 species in cultivation. The associated herbarium houses over 193,000 specimens. An annexe of approximately 80 hectares was established at Jervis Bay in 1951 for research to cultivate frost tender plants under more favourable conditions than those prevailing in Canberra, and to establish a collection of native plants representative of the flora of the Jervis Bay region. There are over 400,000 visits to the Gardens each year.

An information centre containing displays, leaflets and a bookshop, educational facilities and the Banksia Centre, with its special garden and activity programs for disabled people, are part of the community services offered by the Gardens to international, interstate and local visitors.

Horticultural, botanical and biological research is an important aspect of the Gardens' activities and special emphasis is placed on the study and cultivation of endangered species. The Australian Cultivar Registration Authority is also based at the Gardens.

Australian National Gallery

The Australian National Gallery in Canberra was established in 1975. The building was officially opened in 1982. The Gallery's aim is to acquire, conserve, research and make accessible a national collection of works of art for the benefit and enjoyment of all people. To fulfil this aim the Gallery's acquisitions follow two key principles—works of art are selected on the highest aesthetic standards to show the art of Australia against the art of the rest of the world; and the Gallery's international collections are to complement existing public collections in Australia.

Australian art

The entire upper floor of the Gallery has a permanent display presenting the history of Australian art. The display incorporates Aboriginal art, paintings and sculptures, decorative arts, illustrated books, prints, drawings, watercolours, photographs and mural decorations.

International art

The Gallery began its collection of international art in 1972 and in a comparatively short time has acquired a range of masterpieces, including a component of European works from antiquity to 1900, and a more representative collection from 1900 on with very comprehensive collections from 1950 to the present.

The collection contains paintings, an important group of sculptures of many kinds, and important print and photography collections.

National Museum of Australia

The National Museum of Australia was established under the *National Museum of Australia Act 1980*. In 1983 the developmental plan was accepted in principle by the Commonwealth Government which also selected a site of 88 hectares in Canberra. On current planning the museum is expected to open in 2001.

The Museum is a unique concept as a museum of national history which will have three main themes: the history of the Australian Aboriginal people, the history of non-Aboriginal people and the interaction of people with the Australian environment. Planning of the Museum's long-term development and its exhibition and acquisitions programs in particular have reflected the essentially inter-related and complementary nature of these themes.

In September 1986 the Museum's Visitor Information Centre was opened to the public. A discovery trail has also been developed along a scenic part of Lake Burley Griffin adjacent to the Museum site. For further details on the National Museum of Australia *see* the special article within this *Year Book*.

Australian National Maritime Museum

In June 1985 the Commonwealth Government announced plans to establish a National Maritime Museum at Darling Harbour, Sydney. The Museum will collect and display material reflecting all aspects of Australia's maritime history including facets of prehistory. The major exhibition themes are the discovery of Australia, immigration by ship, commerce (including safety at sea), the Navy, and leisure and recreation. In addition, a permanent gallery, as a result of a Bicentennial gift from the United States of America, will explore two centuries of United States–Australian maritime contact.

An exhibition building is under construction in Sydney and is expected to be open to the public late in 1989.

Archives and Records

While general interest in archives in Australia was aroused following the celebration of the centenary of the colony of New South Wales in 1888, it was not until the twentieth century that measures were taken for the preservation, storage and servicing of original records. Initially, major libraries throughout Australia undertook the collection of historical records from both official and private sources. Today, archives and records organisations exist for government records at Commonwealth and State level. Some State and Territory archives were established, since 1961, as separate authorities (New South Wales, Victoria, South Australia, Tasmania and the Northern Territory). Others remain as archives sections within State libraries.

In addition, archives have been established by some churches, business corporations, universities and city councils. The Australian War Memorial collects private material concerning Australians at war and is also a custodian of certain official Commonwealth records relating to wars or war-like operations. Other corporate and private records continue to be collected by some of the State archives offices, libraries and universities.

Many of these bodies in the archives or records field are members of the Australian Council of Archives which provides a means of promoting cooperation on issues of common concern.

Australian Archives

The need for a Commonwealth archival agency was recognised in 1943 when the Curtin Government appointed both the Commonwealth National Library and the Australian War Memorial as provisional archival authorities. In 1952, the Commonwealth National Library became the sole Commonwealth archival authority, and in 1961 the Archives Division of the Library was reconstituted as a separate agency known as the Commonwealth Archives Office. At this time, the Archives Office became responsible for the evaluation, disposal and preservation of Commonwealth records, for taking into custody all records no longer required for immediate reference and for regulating access to those records by research workers and other members of the public. In 1974, the Commonwealth Archives Office was renamed the Australian Archives and a Director-General was appointed in 1975. By 1974 regional offices had been established in all State capitals and in Darwin and Townsville. Services to government agencies and the public are available from this regional network. The central office of the Australian Archives is located in Canberra.

The *Archives Act 1983*, which came into effect on 6 June 1984, provides the Archives with a statutory basis for its operations and institutes arrangements for the management and proper disposition of the vast body of records created by Commonwealth agencies, past and present. The Act provides for the gathering and provision of information about Commonwealth agencies and their records; the means by which the disposal of records is authorised; and for the storage and preservation of records.

By providing a legislatively based system of public access covering Commonwealth records more than 30 years old, the Archives Act complements the provisions of the *Freedom of Information Act 1982*. Together, these two Acts provide a comprehensive system of public access covering all classes of Commonwealth records.

The Records Information Service (RINSE), a database of information about the structure and function of government agencies and their records, is held on the organisation's computer and forms the basis of its finding aids. Information held on the database is accessible on-line (to Archives staff) and in computer-output-microfiche format. The microfiche forms the body of the first part of the Australian National Guide to Archival Material (ANGAM I) which serves as the main public finding aid and supports the separate ANGAM II covering the access status of records.

Work continued during 1987–88 on the loading of information about the War Memorial's holdings for presentation in the microfiche ANGAM III, which will complement ANGAM I. Investigations about the possible extension and enhancement of the database were also initiated. A computerised Physical Control System (PCS) was implemented nationally during the year. PCS documents and provides a range of management information on the quantity, type, location, retrieval activity and destruction of records transferred to the Archives' custody.

At 30 June 1988 Australian Archives' holdings throughout Australia totalled 444,390 shelf metres of records, including 176,800 metres of permanent value material. In 1987–88, 1,505 official reference inquiries from agencies were received, 401,937 items were lent or returned to departments and authorities and 258,990 were consulted by officials in the repositories. During the same period 7,380 public reference inquiries were received and 31,656 items were consulted by the public in search rooms. At 30 June 1988, Australian Archives had 401 full-time operative staff.

National Film and Sound Archive—NFSA

The National Film and Sound Archive was established by the Commonwealth Government in April 1984 and is located in the former Institute of Anatomy building in Canberra. The NFSA collects and preserves the moving image and recorded sound heritage of Australia, and provides a range of access services to the media industry, researchers, educators and the public.

The NFSA collection includes: 680,000 radio and gramophone discs; 40,000 film and television productions; 600,000 posters, still photographs, documents and related items; 50,000 film, radio and television scripts; 19,000 phonograph cylinders; 30,000 audio tapes; 11,000 piano rolls. The NFSA presents exhibitions on various themes related to the collection. Exhibitions are promoted interstate and there are regular screenings of films from the collection.

For further information on the National Film and Sound Archive *see* the special article within this *Year Book.*

LIBRARY SERVICES

The Commonwealth supports a range of library services in areas not otherwise served by State systems. These include a concentration of functions appropriate to the national reference, curatorial and bibliographic services provided by the National Library of Australia, and more specialised services provided from other government departments.

National Library of Australia

The National Library in Canberra was formally established under the *National Library Act 1960*, which came into effect in March 1961. It was previously part of the Commonwealth Parliamentary Library. The National Library maintains and develops a national collection of library material from Australia and overseas. Emphasis is given to areas of the world of major significance to Australia's own political, social, economic and technological development. The Library has a particular responsibility for assembling a comprehensive collection of library material relating to Australia and the Australian people. In fulfilling its functions, the Library seeks to preserve books, periodicals, newspapers, government publications, pictures, prints, manuscripts, maps, music scores and other materials. Under the deposit requirement of the *Copyright Act 1968*, a copy of all printed material published in Australia is delivered to the Library.

The Library has also been enriched by the acquisition of such notable collections as the Petherick collection of Australiana in 1911, the Cook manuscripts in 1923, the Mathews ornithological collection in 1959, the Ferguson collection of Australiana in 1970, the Tooley collection of rare maps of Australia and South East Asia in 1973, the Harold S. Williams collection of western language material on the opening up of Japan to the west in 1979, the McLaren/Human collection on Korean history in 1982, the Luce collection on Burma in 1984 and the O'Neill collection of Australian juvenile literature in 1986. In 1987 the Library received some notable collections of manuscript material, including the papers of the playwright and screenwriter David Williamson and the Geoffrey Dutton collection. Currently the Chris Sullivan collection of field recordings of folk music is being progressively acquired. The Library has a vigorous exhibition program in which regular exhibitions of paintings, prints and other historical material selected from its various collections are presented. The Library's Bicentennial exhibition, 'People, Print and Paper', is the latest of those which have been sent interstate for display.

The National Library's collection of Australian and overseas material contains over four million volumes, including microform equivalents; 39,400 paintings, drawings and prints; 501,700 photographs; 6,900 shelf metres of manuscripts; 370,000 maps; 563,800 aerial photographs; 133,000 music scores; 22,000 films and video cassettes; and over 35,000 oral history and folklore tapes.

These materials may be used in the Library's reading rooms and many of them are also available through the national interlibrary loan service, in which the Library is a major participant. The Library operates a film lending service to organisations in Australia. The Library also provides reference services and access to computer based information, both in Australia and overseas, including the MEDLINE Network and the OZLINE Network which provides access to a number of major Australian information retrieval databases including APAIS/AGP/ANB. The Library in cooperation with other institutions provides for the development and coordination of library services for the disabled.

Australian Bibliographic Network—ABN

The National Library achieves cataloguing economies on a national scale through the provision of centralised services. The ABN, a national on-line shared cataloguing system launched by the National Library in November 1981, now has over 6 million records for Australian and overseas material and 7.5 million holdings contributed by 348 Australian libraries. It provides bibliographic records in machine readable form or as catalogue cards. The Network has over 800 libraries subscribing to its services, of whom 139 are full service users contributing original cataloguing. Through its cataloguing-in-publication program, the Library supplies cataloguing data to Australian publishers in advance of publication so that this information can be included in the book when it appears. In this way the book and its cataloguing data are available simultaneously as a benefit to libraries, booksellers, bibliographers and the general book buying public.

National Union Catalogue of Australia

The compilation of what is collectively known as the National Union Catalogue of Australia is another example of a cooperative bibliographic activity. It is a series of specialised union catalogues for monographs, serials, non-book materials, newspapers, manuscripts, music, oriental language materials and library materials for people with disabilities. The union catalogues are managed by the National Library. Increasingly the current data is cooperatively maintained on-line and accessible through ABN. The series of catalogues is described in the *Australian Interlibrary Resource Sharing Directory 1988*.

The Library is a major partner in, and coordinator of, the Australian Joint Copying Project, which microfilms records relating to Australia, held in Great Britain and Australia.

Australian Council of Libraries and Information Services—ACLIS

A significant development during 1988 was the establishment of a new peak council to represent the views of all types of libraries in Australia. The new body, ACLIS, is governed by an elected National Council and is serviced by a secretariat provided by the National Library of Australia. The Director-General is an ex-officio member of the National Council. Its role will be to present to governments at all levels a unified view on the importance and value of library and information services in Australia. The new body came into existence on 1 July 1988, and has taken over many tasks formerly carried out by the Australian Advisory Council on Bibliographic Services (AACOBS) and the Australian Libraries and Information Council (ALIC). Both of these bodies were formally disbanded by 30 June 1988, and their assets and ongoing commitments largely passed to ACLIS.

Other Commonwealth Libraries

Patent Office Library

The library of the Australian Patent, Trademarks and Designs Office in Canberra contains approximately 14,000 books and a wide variety of periodicals and other literature relating to science, technology, industrial property (patents, trademarks and designs), law and practice. The collection dates back to 1904, ensuring that its holdings of patent gazettes, journals and specifications are reasonably comprehensive. Patent specifications of inventions are received from the principal countries of the world. Present holdings are over 15 million with an estimated 600,000 patent specifications received annually. Document back-up is available through the sales centre.

Australian and some foreign specifications and related material are also available at sub-offices in Brisbane, Sydney, Melbourne, Adelaide, Perth and Hobart.

Commonwealth Scientific and Industrial Research Organization—CSIRO

The Information Services Unit (ISU), a component of the Corporate Services Department, was formed in 1988 by the amalgamation of the central library and information service with other information and communication services. Its objectives are to provide enhanced library, information and communication services for CSIRO scientists, and to contribute to improving the scientific and technical information services available in Australia.

The ISU complements and extends information programs in the CSIRO research divisions and is also the coordinating centre for the CSIRO library network of over 40 libraries in divisions located Australia-wide.

The activities of the ISU are reported with all other units in the Annual Report of the Corporate Services Department. This publication supersedes CILES' Report.

The Australian War Memorial Research Centre

The Centre preserves the documentary and pictorial records of Australia's participation in armed conflicts. Printed, audio and other material includes over 80,000 volumes (books and bound periodicals); thousands of unbound periodicals, leaflets, souvenir and microfilm items; a large collection of military maps; newscuttings and newspapers; 500 hours of sound recordings; war posters; postage stamps; and currency. Official records and personal papers occupy 5,000 metres of shelving. Official war photographs covering World War I, World War II, the Korean and Vietnam wars number over 800,000, and there are about 600 kilometres of cinefilm. Facilities exist for reference and research.

Commonwealth Parliamentary Library

The Library provides comprehensive information and research services to the Commonwealth Parliament through the Legislative Research Service and the Library, Reference and Information Service. The Legislative Research Service comprises groups staffed by subject specialists who prepare analyses and interpretations of specific issues with which the Parliament is or may be concerned. The Library, Reference and Information Service answers questions and provides information from printed and other published sources in all areas relevant to the duties of a Parliamentarian. The Library collection is concentrated on topical material, supported by a wide collection of standard references; it totals some 150,000 volumes, including 9,000 serial titles. The Library publishes the *Commonwealth Parliamentary Handbook*, which is a standard reference work, topical annotated reading lists, general research papers from the Legislative Research Service, digests of bills and, in alternate weeks the *Index to Current Information* and *Select List of Acquisitions*. Extensive use is made of computer and on-line services, particularly in such areas as economic and electoral statistics and in the provision of information by librarians. Access to the Library is restricted to Members of Parliament and their staff, and to Parliamentary staff.

Australian Bureau of Statistics Library

The ABS Library in Canberra has a complete set of ABS publications published since Federation and many State and colonial official statistics. It also has a large collection of material on statistical methodology as well as year books, census reports and statistical bulletins from many countries and international agencies, covering periods in some cases from the turn of the century. The Library is available to the public by prior arrangement. A smaller Library exists in each State office.

Departmental libraries

Each government department has a library or information unit to service its departmental needs. Some of these libraries are available for public use.

Other Libraries

State and municipal libraries

Most municipalities and shires have libraries funded by the local council with some State government assistance. A detailed description of libraries funded directly by the States is given in the respective State *Year Book.*

Children's libraries and school libraries

Children's libraries exist in all States, usually as branches or extensions of State or municipal libraries. School libraries exist in many schools funded by State governments and by the efforts of parent and school bodies.

University and college libraries

The Commonwealth Government has, since 1957, supported the development of university and college of advanced education libraries.

CREATIVE ARTS

The arts in Australia receive considerable financial support from the Commonwealth Government. This support is complemented by State, Territory and local governments. Governments provide funds for virtually all aspects of creative artistic life. Major arts facilities have opened in Canberra, Sydney, Melbourne, Brisbane, Perth, Adelaide and Darwin. The number of regional art museums and performing arts centres has increased in recent years. In the past decade the number of major international art exhibitions touring capital cities has increased. Community and folk arts have gained recognition, and the Australian film industry is emerging once again as a major contributor, in economic and artistic terms, to Australian cultural life.

The activity of governments in encouraging and supporting culturally important activities is complemented by non-government sponsors, organisers, entrepreneurs and patrons of the arts. Private and corporate investment in the arts is being encouraged, and joint ventures between government and corporate sponsors for large scale events, tours or exhibitions are not uncommon.

National Activities

The Commonwealth Government formulates policy guidelines for the support of the arts generally and allocates funds annually to the national cultural institutions under its jurisdiction. Commonwealth–State consultation on cultural matters takes place through the Cultural Ministers Council.

Cultural Ministers Council

The Cultural Ministers Council is the ministerial forum on cultural activities in Australia.

The Council, established in 1984, provides a forum for the exchange of views on issues affecting cultural activities in Australia. It consists of the Commonwealth, State and Territory ministers responsible for the arts and cultural heritage. New Zealand and Papua New Guinea ministers with responsibility for the arts are invited to attend meetings as observers.

For the purposes of the Council, cultural activities are defined as: creative arts; performing arts; cultural heritage, including collecting institutions; libraries and information services; and film.

Working Groups have been established by the Council to undertake various studies. These are the Statistical Advisory Group; Working Group on a Framework for Cultural Development; Orchestras' Working Group; National Information Network Committee; and Working Group on Devolution.

Joint Committee of Cultural and Education Ministers—JCCEM

The JCCEM was established in 1985–86 by the Cultural Ministers Council and the Australian Education Council to examine ways to improve the status of arts education in Australia.

The function of the Committee is to encourage increased coordination and cooperation between education and cultural authorities throughout Australia. Areas of focus include support for the development of the arts; arts curriculum development; and the planning and operation of arts/education facilities.

Australia Council

The Australia Council is the Commonwealth Government's chief funding body and policy adviser for the arts. Established as a statutory authority in 1975, its responsibilities are detailed in the *Australia Council Act 1975*. Broadly speaking, the Council's brief is to formulate and carry out policies to help raise the standards of the arts in Australia, to enable and encourage more Australians to become involved in the arts and to enable Australians and people in other countries to become aware of Australia's cultural heritage and achievements. Artists and arts' organisations are assisted financially by the Council through its specialist artform boards.

In May 1987, the Government announced changes to the structure of the Australia Council in response to the Report of the House of Representatives Standing Committee on Expenditure Inquiry into Commonwealth Assistance to the Arts (the *McLeay Report*), to revitalise arts support mechanisms and policies for the next decade. Under the new arrangements, the Council consists of fifteen members made up of the Chair of Council, all chairs of Boards, arts practitioners and representatives of the broad public interest, and Council's General Manager as an ex-officio member. The number of artform boards was reduced from eight to four, which cover literature, visual arts and craft, the performing arts and Aboriginal arts. A Design Committee of Council replaced the former Design Board.

Community cultural development

A new Community Cultural Development Unit was formed in July 1987 to elevate the Council's community arts focus and provide for integration with the activities of the artform boards. The functions and funding role of the former Community Arts Board were transferred to the new unit which has a broader brief to foster community cultural development. The Council now has ultimate responsibility for community arts development, and assists community involvement by encouraging the closer integration of arts practice into everyday life and growth of an independent culture that reflects the diverse composition of Australian society.

The Community Cultural Development Unit also administers programs in support of Multicultural Arts, Youth Arts, Touring and Access, and Art in Working Life.

ALLOCATION OF FUNDS FOR PROGRAMS, BOARDS AND ADMINISTRATION OF THE AUSTRALIA COUNCIL, 1987–88

($'000)

Support for Artform Development	
Aboriginal Arts	3,044
Community Cultural Development Unit (CCDU)	4,656
Design	501
Literature	3,285
Performing Arts *(a)*	27,206
Visual Arts/Craft	5,426
Total Boards and CCDU	*44,118*
Support for General Arts Activities	
Arts Information	289
General Council Programs	618
Policy and Research	183
International	14
Total Programs	*1,104*
Total Support for the Arts	45,222
Administration	6,596
Total appropriation	**51,818**

(a) Includes $4,719,000 for The Australian Opera; $2,258,000 for the Australian Ballet and $2,056,000 each for the Sydney Philharmonic Orchestra and State Orchestra of Victoria.

Aboriginal arts

The Aboriginal Arts Board supports activities involving the preservation and continuation of traditional cultural practices and their associated artforms, as well as the generation of new artistic expression among Aboriginal people in urban and country areas.

Literature

The Literature Board encourages all forms of Australian creative writing through direct grants to writers, and the subsidising and promotion of the resultant works. More than half of the Board's annual expenditure goes in grants to writers to meet travel, research and other expenses.

Performing arts

The Performing Arts Board facilitates consideration of issues common to all the performing arts such as training, performance venues and administration. The board also continues to encourage and support the development of music in Australia and the promotion of Australian music and musicians overseas, and the development of performance, content and production of dance, drama, puppetry, mime and young people's theatre, which stem from and relate to the Australian experience.

Australia has eight fully professional orchestras managed by the Australian Broadcasting Corporation, namely a symphony orchestra in each State capital city and two orchestras, the Elizabethan Sydney Orchestra and the State Orchestra of Victoria, predominantly engaged in work with the Australian Opera (Sydney) and the Australian Ballet (Melbourne). The Board provides continuing support for some 80 drama, dance, puppetry, mime and youth companies and provides opportunities for professional theatre people to develop their skills, encourages growth in theatre attendance and promotes community involvement in live theatre.

Visual arts/craft

The Visual Arts/Craft Board has been designed to link related, but distinct artforms. The Board provides assistance to individuals and organisations working across a wide spectrum of the visual arts in Australia, from painting and sculpture to musicology. Programs include grants to individuals, the commissioning and placing of works of art in public places, research and writing on the visual arts, support for artists in residence and the acquisition, exhibition and conservation of works of art.

In the area of crafts, the Board encourages continuing improvement in the quality of crafts practised in Australia, and provides greater opportunities for craftspeople to further their professional development. It fosters wider community access to the crafts and promotes an awareness of Australian crafts overseas and of work of other countries in Australia.

Other Commonwealth Schemes in Support of the Arts

Artbank

Artbank is a unit of the Department of the Arts, Sport, the Environment, Tourism and Territories, set up to encourage young Australian artists through the purchase and public display of their work, thereby complementing other Commonwealth art support schemes. Since its inception in 1980, the Artbank collection has grown to more than 5,000 works, including paintings, artists' prints, sculpture, photography, Aboriginal art, and craft. Approximately 1,500 artists are represented in the collection.

Taxation incentives for the arts

The Taxation Incentives for the Arts Scheme came into operation on 1 January 1978 under section 78 of the *Income Tax Assessment Act 1936*. The scheme encourages the donation of gifts in kind to public art galleries, museums and libraries by allowing donors a taxation deduction.

Historic Memorials Committee

The Historic Memorials Committee was established in 1911 to secure portraits of distinguished Australians who took an active part in Federation. Later the Committee decided to obtain portraits or other representations of all Governors-General, Prime Ministers, Presidents of the Senate, Speakers of the House of Representatives, Chief Justices of the High Court of Australia and other distinguished Australians. In addition, the Committee has commissioned paintings or other representations to record special events connected with the Commonwealth Parliament and, more recently, the High Court of Australia. The collection is located in Parliament House.

Commonwealth indemnification of exhibitions

In 1979 the Commonwealth introduced a scheme under which national and international touring exhibitions could be approved for Commonwealth indemnity against loss or damage of the works involved. The scheme ensures that the Australian public has the opportunity to see major international and Australian touring art exhibitions which would be uneconomic without indemnity due to the prohibitive cost of insuring such major works. The scheme also covers Australian exhibitions travelling overseas, sponsored by the Australia Council, for which indemnity is not available from the host country and which could not proceed without Commonwealth indemnity.

Thirty-seven exhibitions were indemnified by the Commonwealth between 1979 and 1987. During 1988 a special Bicentennial program of 14 exhibitions received Commonwealth indemnification. This program, including a number of historical Australian exhibitions specially curated for the Bicentenary and a range of exhibitions from overseas, will tour State museums, art galleries and regional centres.

International Cultural Corporation of Australia Limited—ICCA

ICCA was established by the Commonwealth Government in 1980 as a non-profit public company, to arrange and manage exhibitions and events of art and culture.

Its principal activities are three-fold. Firstly, working in close collaboration with Australian and overseas galleries and museums, it manages significant exhibitions of artistic, cultural and historical interest. Secondly, it works with the Australian Government to send Australian exhibitions overseas. Thirdly, it offers consultancy and advice to Commonwealth, State and overseas governments, and to galleries and museums.

To date, the Corporation has managed 31 exhibitions and events, among them, 25 major touring exhibitions. Total audiences have exceeded 3.5 million.

The Australian Government provided seeding funds totalling $1 million between 1980 and 1983, but since then the Corporation has been self-supporting. ICCA has attracted $10.6 million of sponsorship support from 35 companies in the corporate sector and 14 public sector sources.

ICCA works in close collaboration with the Department of the Arts, Sport, the Environment, Tourism and Territories through which it is a manager of the Australian Government's indemnity scheme. ICCA also works with the Department of Foreign Affairs and Trade and other government and cultural agencies in Australia and overseas. Its continuing contractual partners in exhibition activities are the Australian galleries and museums.

Public Lending Right Scheme

The Public Lending Right Scheme, established by the Commonwealth Government in 1974, makes compensatory payments to Australian authors and their Australian publishers for the use of their books in public lending libraries. Eligible books must be created by Australian citizens and residents and meet certain eligibility criteria. The *Public Lending Right Act 1985*, placing the Scheme on a statutory basis, began operation on 1 July 1987.

The scheme aims to resolve the apparent conflict between providing a free library system and ensuring that Australian writers, editors and other creators receive a fair payment for the use of their books.

The scheme's annual payments amount to approximately $2 million. Payments to authors and publishers are based on annual sample surveys of bookstocks of public lending libraries throughout Australia.

Other Arts Organisations

Arts Council of Australia

The Arts Council of Australia is a national federation of community arts based Arts Councils. Each State Division is funded through the Australia Council and their respective State Government.

The Arts Council of Australia is administered through the State office in which the Federal President resides. (For 1988–89 the Federal Office is with the Victorian Arts Council.)

The Council acts as a coordinating body for the activities of the States. These programs cover a wide range of community arts activities initiated by local Arts Councils, an extensive program of professional performances in schools and tours by major theatre companies to towns and cities outside the capitals.

There are now about 300 Arts Councils around Australia. Each local Arts Council initiates its own program of activities which are supported by the State Offices.

Australian Elizabethan Theatre Trust

The Australian Elizabethan Theatre Trust, established in 1954, was originally formed to present drama, opera, ballet and puppetry throughout Australia. Full autonomy has been accorded to most of the performing companies established by the Trust. The Trust's major functions are to administer the Elizabethan Theatre Trust Orchestras; to act as entrepreneur in the touring of theatre features from overseas and Australian sources; and to provide general services, including tax deductibility for donations, for theatre organisations.

The Trust receives annual grants from the Australia Council and State and local governments. Its revenue is supplemented by subscriptions, donations and its own activities.

The Australian Ballet

The Australian Ballet, established in 1961 as the national classical ballet company of Australia, first performed in Sydney on 2 November 1962 and was registered as an incorporated company in 1970.

Fifty-eight dancers perform on stage backed up by 42 artistic, music, production and theatre staff and 28 marketing, publicity, administrative and finance staff—a total of 128.

The Australian Ballet gives about 185 performances every year in the Australian cities of Sydney, Melbourne, Brisbane, Adelaide and Perth and has toured overseas regularly. Tours since 1965 are listed below.

1965	Royal Opera House, Covent Garden, London and Baalbeck, Lebanon
1967	North and South America
1968	South East Asia
1970–71	United States of America
1971	Singapore and Philippines
1973	USSR, Eastern Europe and London
1976	New York, Washington, London and Philippines
1978	Jakarta
1979	Greece, Israel and Turkey
1980	The People's Republic of China
1981	Mexico
1987	Japan and China
1988	USSR, London and Athens

The Commonwealth and State governments of Australia provide yearly grants to the Australian Ballet, contributing 22 per cent of its total income, but its main source of revenue is ticket sales which bring in more than $6 million. Many businesses and commercial organisations provide sponsorships which total in excess of $1 million. Operating costs exceed $10 million per annum. Orchestras for Australian performances are funded by government grants and conducted by the Australian Ballet's music director and guest conductors.

Festivals

Festivals devoted solely or partly to the arts now total about 400 a year. The two biggest are Adelaide's biennial and Perth's annual festivals, both of which last several weeks and present overseas artists as well as leading Australian companies.

Many country centres now have arts festivals which attract performers and artists from a wide area. Seminars, arts workshops and community participation programs are increasingly popular.

The Australian Opera

The Australian Opera is the largest performing arts organisation in Australia, employing more than 200 permanent staff including 31 principal artists and 50 chorus. In addition it employs more than 500 casuals each year, including a number of celebrated international singers, directors and designers. The projected budget for the Opera in 1988, excluding the cost of orchestras, was more than $23 million, derived from the following sources—59 per cent box office and other earned income, 26 per cent Government subsidy and 15 per cent private contributions. The Opera, with headquarters in Sydney, tours annually to Melbourne and frequently visits other centres. In 1989 it will give 232 performances on Australian opera stages. Opera performances in the parks and on television are being increasingly utilised by the company to provide all Australians with access to opera.

Musica Viva

Musica Viva Australia is Australia's national chamber music entrepreneur. A non-profit company founded in 1946, it presents concerts mainly of chamber music but also of other types of fine music by Australian and overseas artists.

Musica Viva receives subsidies from the Performing Arts Board of the Australia Council and several State governments, with the balance of its income coming from ticket sales, sponsorship and donations.

It also manages tours by Australian artists overseas, often in association with the Department of Foreign Affairs and Trade, operates an extensive program in education, and commissions new music from Australian composers. In 1988, Musica Viva presented over 2,000 concerts throughout Australia and overseas.

Film and Television

Encouragement of the Australian film industry is a firm policy objective of the Commonwealth Government. The following funds were allocated to film-related organisations in 1987–88:

- Australian Film Commission—$19.6 million;
- Australian Film, Television and Radio School—$23.0 million (including capital allocation for construction of new premises for the School);
- Australian Children's Television Foundation—$0.54 million.

Australian Film Commission

The Australian Film Commission is a statutory authority established in 1975 to encourage the development and growth of an indigenous film industry.

The Commission addresses this responsibility by managing the expenditure of over $28 million on film production and financial assistance to independent film makers, by offering a legal, business and marketing advisory service, and by producing films for government departments and programs in the national interest.

The Film Development Division, through the Script Office and various funds (Creative Development, Special Production, No Frills, and Women's Film Funds), provides financial support to individuals for script development and production, and offers financial facilities for projects entering production. In addition to these responsive funds, specific programs have been introduced to target particular industry needs. These programs concentrate on developing skills with a select group of film makers. They include a Documentary Fellowship, a Producer Support Scheme and a Comedy Fund.

National film production, excluding documentaries, comprised 42 features, 33 telemovies and 19 mini-series produced outside the television networks in 1987–88 for approximately $207 million.

In 1987, cinema admissions amounted to 30.4 million attendances. Australian films claimed a 10 per cent share of the gross box office in capital cities.

Film Australia Pty Limited

Film Australia, the Government's film and video production body, has been re-established as a wholly Commonwealth-owned company to operate as far as practicable along commercial lines. Originally established in 1911 as the national film production house, the new company, known as Film Australia Pty Limited, was incorporated in the Australian Capital Territory on 24 May 1988 and commenced operations on 1 July 1988.

Film Australia's role in the community and film industry is to make films and videos which reflect aspects of the Australian way of life and Australia's relationship with the world. It also offers new filmmakers the opportunity for production experience in a professional environment, and allows established film makers the chance for experimentation and the practical development of ideas and techniques.

Film Australia produces approximately 100 film and video titles a year. It maintains the largest Australiana stock-shot library in the world, with around two million metres of film, including archival material.

Australian Film Finance Corporation Pty Ltd

On 25 May 1988 the Government announced its decision to establish the Australian Film Finance Corporation. Officially incorporated as a company on 12 July 1988, and with a budget allocation covering the next four years, the Corporation is to invest in feature films, documentaries and television dramas, including mini-series and telemovies. Special attention will be given to children's television.

Taxation Incentives for Films Scheme

The scheme which is embodied in Division 10BA of the *Income Tax Assessment Act 1936* was established in October 1980 to encourage private investment in Australian films. The scheme allows taxation concessions for private investors in qualifying Australian films which have been issued with a certificate to that effect by the Commonwealth Minister for the Arts and Territories.

Qualifying Australian films are feature films and films of a like nature for television (telemovies); documentaries; and mini-series of television drama. Further they must be produced principally for public exhibition in cinemas or on television, be substantially made in Australia and have a significant Australian content.

In May 1988 it was announced that the tax concessions would be reduced from 120 to 100 per cent of the investment in qualifying Australian films.

Australian Children's Television Foundation

The Australian Children's Television Foundation was incorporated in Victoria in March 1982. Its aim is to improve the quality and quantity of children's programs on Australian television. It has actively pursued this objective by investing in script development and program production and by undertaking related educational and informational activities. The Foundation receives assistance from Federal, State and Territory governments (with the exception of Queensland). In 1986–87, $0.5 million was provided by the Commonwealth with a matching contribution sought from the other participating governments on a State/Territory per capita basis.

Film censorship

The Commonwealth's censorship powers derive from section 51(1) of the Constitution which enables the Commonwealth to regulate trade and commerce under the Customs Act. Section 50(1) of the latter Act provides that the Governor-General may, by regulation, prohibit the importation of goods into Australia. The Customs (Cinematograph Films) Regulations, which establish the Film Censorship Board and define its legislative role and functions, flow from that section.

The Board is a full-time statutory body located in Sydney. Regional censorship officers, with limited power and functions, are located in Canberra, Melbourne, Brisbane, Adelaide and Perth. The Board is part of the Office of Film and Literature Classification, created in April 1988.

Under the Customs (Cinematograph Films) Regulations, the Board examines imported films and videotapes to determine whether to register or to refuse to register them for public exhibition. It also examines film advertising. The Regulations direct the Board not to pass films or advertising matter which in its opinion are:

- blasphemous, indecent or obscene;
- likely to be injurious to morality, or to encourage or incite to crime;
- undesirable in the public interest.

The Board's State functions in relation to cinema films, including classification, are performed by virtue of formal agreements with the various States. Decisions on matters arising under the Regulations and on classification under State/Territory legislation may be appealed to the Films Board of Review.

Feature films

In 1987, 535 cinema feature films were processed. Nine feature films were refused registration and deletions made in one. There were 12 appeals, of which 8 were upheld and 4 dismissed. Of the 535 features, 52 were classified For General Exhibition ('G'), 116 Parental Guidance ('PG'), 262 For Mature Audiences ('M') and 74 For Restricted Exhibition ('R'). Permission to import for use at film festivals was granted to 160 films, and 21 were passed subject to special conditions.

The principal countries of origin were the United States of America (204 films), Hong Kong (88 films), Australia (51 films), the United Kingdom (37 films) and Japan (34 films).

While the 'M', 'PG' and 'G' classifications are advisory, persons who have attained the age of two years and who have not attained the age of 18 years are excluded by law from seeing 'R' rated films.

Videotapes

The Board examined 1,930 video features for sale or hire in 1987. There were 10 appeals, 6 of which were upheld and 4 dismissed. 592 feature titles were classified 'G', 341 'PG', 554 'M', 286 'R' and 129 'X'. Twenty-eight were refused classification. The 'X' classification is applied only to videotapes in the ACT and Northern Territory which contain non-violent explicit sexual material. Such material is prohibited in the States.

Professional Training in the Arts

Professional training in the arts in Australia covers a broad range of resources. Training is available through formal educational programs in TAFE, advanced education and university level courses. There are also a number of on-the-job training programs available in the arts and many organisations offer in-house training programs for staff. Very few national institutions deal specifically with professional training in the arts.

National Arts Industry Training Committee Limited—NAITC

The Committee was established in 1986 as a national organisation dealing specifically with vocational training needs in the arts industry. NAITC is not a training organisation in itself, but aims to ensure that training meets present and future needs of those involved in the arts. The Committee undertakes a number of activities to achieve its aims. NAITC encourages dialogue within the arts community about training needs and develops programs based on these discussions. It acts as an important resource centre on information regarding available training in Australia. NAITC undertakes a series of research projects to examine specific training needs in difference sectors of the arts industry. These have included the investigation of training for industrial design, live theatre technicians and management skills training for the rock industry. NAITC liaises with State and Federal governments, educational institutions and others involved in policy making for arts training and so acts as an advocacy body. NAITC is a tripartite organisation, consisting of employers, employees and Federal Government representatives. Membership includes organisations involved in film, television, literature, design, crafts, performing and visual arts. The Commonwealth provides funds for NAITC through the Department of Employment, Education and Training. Additional funds in the form of financial contributions and in-kind support from the arts community supplement government grants.

Australian Film, Television and Radio School

The School was established in 1973 as an Australian Government statutory authority. It is responsible for providing advanced education and training for industry professionals, as well as the development, through its full-time and short courses, of new and emerging talent.

The School undertakes, coordinates and disseminates research in connection with the production of programs. Training needs are assessed and employment trends in the industry are evaluated. The School maintains an extensive library of print and non-print material related to film, television and radio.

National Institute of Dramatic Art—NIDA

The Institute is Australia's national training school for young people who wish to enter the profession of theatre, film and television as actors, directors, designers or stage managers. The Institute's courses are designed to meet the needs of the arts entertainment industry by assisting students to develop the craft skills, cultural background and personal discipline required for successful careers in their chosen field.

The Institute's students number approximately 130 and it has a staff of 30 full and part-time teachers. Each year, some 50 new students are enrolled from over 1,500 applicants from throughout Australia.

RECREATION, FITNESS AND SPORT

The Department of the Arts, Sport, the Environment, Tourism and Territories has a general responsibility in the national sphere for recreation, fitness and advice on sport policy.

All State governments have also established agencies with special responsibilities for recreation and sport. Increasing numbers of local government authorities are employing recreation workers who are responsible for planning the use of recreation facilities, and for devising recreation programs.

National Activities

The Sport and Recreation Ministers Council (SRMC) provides the major mechanism for liaison between the Commonwealth, State and Territory governments on matters concerned with sport and recreation in Australia. The Council is a forum for consultation and cooperation between the respective governments, and its membership comprises the ministers with prime responsibility for sport and recreation. Both New Zealand and Papua New Guinea have observer status on the Council.

The SRMC is assisted by the Standing Committee on Recreation and Sport (SCORS). The Department provides secretariat support to the Council, the Standing Committee and its subcommittees.

Standing Committee on Recreation and Sport—SCORS

The Standing Committee comprises representatives from the Commonwealth, State and Territory departments or agencies responsible for sport and recreation. It has established two permanent subcommittees; the Subcommittee on Fitness and the Consultancy Fund Subcommittee.

The objectives of the Subcommittee on Fitness are to:

- provide a mechanism by which the Commonwealth, State and Territory departments can support and assist each other in developing fitness programs;
- provide advice to SCORS on:
  - — matters relating to fitness;
  - — areas of cooperation in planning, implementing and evaluating fitness programs, facilities and services;
- undertake specific tasks in the area of fitness as directed by SCORS;
- initiate, in conjunction with other agencies where appropriate, approved projects relating to fitness.

The Consultancy Fund Subcommittee is generally responsible for advising SCORS on the operation and management of the SRMC Consultancy Fund. The Consultancy Fund has been established jointly by the Commonwealth, State and Territory governments to enable the council to undertake, on a cooperative basis, projects of common interest.

The Consultancy Fund Subcommittee is responsible for:

- advising SCORS on an annual program to be funded from the SRMC Consultancy Fund;
- implementing projects in accordance with the approved funding program;
- monitoring the progress of projects and presenting reports and recommendations;
- advising SCORS on the dissemination and publication of the results of such projects.

Projects recently funded from the Consultancy Fund include: a study into the employment potential of recreation, sport and fitness in Australia; a study into the social, economic and sporting benefits of hosting specific major international sporting events in Australia; the preparation of a report on the financial viability of public sports facilities in Australia; and the preparation of a sports administrators' resource book.

SCORS has also set up several ad hoc working parties to provide advice on matters of specific concern in the area of sport and recreation.

Recreation and fitness program

In 1987–88, a total of $1.843 million was allocated to the Government's recreation, fitness and water safety programs to enhance the opportunities for all Australians to participate in healthy, safe and satisfying leisure activities. Of this amount, $608,000 was provided for a range of projects which aim to increase participation in safe recreation and fitness activities.

Recreation projects

A major aim of the Commonwealth Government's Recreation and Fitness Program is to disseminate recreation and fitness information as widely as possible. In 1988 the Department of the Arts, Sport, the Environment, Tourism and Territories produced a fourth edition of the Australian Recreation Directory, commissioned a further survey in the series of Recreation Participation Surveys, and produced for national distribution three issues of the newsletter *Participation.*

Other recreation projects undertaken in 1987–88 included: *Backyard Play*, a project aimed at providing information on safe play equipment for backyards; *What's Age Got To Do With It?*, a reprint of a highly successful booklet on fitness and recreation activities for older adults; and *A Bush Experience for Young Migrants*, a manual on bush-based recreation activities for children new to the Australian bush. A survey of recreation education was also commenced, with the aim of improving the relevance of tertiary recreation studies to the needs of recreation workers in the field.

Following the success of the *What's Age Got To Do With It?* booklet, feature stories on this and other projects undertaken by the Department relevant to recreation and fitness for older adults were contributed to 'Going Strong', the Special Broadcasting Service television program aimed at Australians aged 50 years and over. Two video programs intended for wider distribution as resource material for recreation workers were also commissioned from Film Australia, *What's Age Got To Do With It?*, based on the booklet, and *What Business Are You In?*, an examination of the nature of recreation and desirable ways of providing recreation opportunities for older adults.

Towards an national action plan for community fitness

Following on from surveys of the physical activity and recreation patterns of Australians conducted by the Department between 1984 and 1987, which identified factors associated with active and inactive Australians, a major national conference was held in November 1988. The National Physical Activity and Lifestyle Conference provided a new focus for fitness and health promotion in Australia and developed a national action plan to improve the fitness, health and well-being of the community.

The Conference was attended by invited representatives from all levels of government, academia, professional and commercial fitness interests.

Promotion of physical activity

In 1987–88 the Department produced a number of publications and other material aimed at increasing opportunities for Australians to participate safely in a range of physical activities.

Among these publications was a booklet on back-care called *Straight Facts about Backs* which was later condensed into a supplement for *New Idea* magazine. Another supplement, *Safe Exercises for Older Adults*, was produced in an earlier issue of *New Idea*.

The Department also produced an any-year exercise and fitness diary aimed at encouraging people to integrate exercise into their everyday life. To encourage high levels of competence in professional fitness leaders, a *Fitness Testing Guide* booklet and video were published. This package is designed to assist professionals in the accurate assessment of fitness levels and the design of appropriate exercise programs.

The Department also contracted a consultancy firm to examine how the media might be better used to promote physical activity. The goals of the consultancy are to develop a national strategy for using the media to promote physical activity, to recommend approaches for different target groups and to produce a resources manual for use at a State and local level.

Fitness award scheme for children

During 1987–88 the Department provided grants to organisations to encourage safe participation in regular physical activity.

The Australian Council for Health, Physical Education and Recreation (ACHPER) developed, with a grant of $30,000 from the Department, a national fitness award scheme for Australian school children. The scheme is designed to provide an incentive for Australian children to participate in regular activity, thereby increasing their fitness, health and physical performance.

The Department also provided a grant of $12,500 in support of ACHPER's activities in relation to Physical Education Week. The week is a national schools and community event that has been developed by ACHPER to maintain interest generated by the UNESCO First

World Week of Physical Fitness and Sport for All, which was coordinated by the Department.

Assistance for water safety organisations

In 1987–88 the Department provided financial assistance totalling $1.235 million to the Surf Life Saving Association of Australia, the Royal Life Saving Society—Australia, and Austswim. These grants encourage the development of safe water-based activity programs for many Australians.

Recreation for People with Disabilities

The National Committee on Recreation for People with Disabilities provides advice to the Minister for the Arts, Sport, the Environment, Tourism and Territories on matters relating to recreation for people with disabilities, and makes recommendations on the allocation of funds under the Program of Assistance for Recreation for People with Disabilities. In 1987–88, $209,000 was allocated for activities which provided opportunities for people with disabilities to participate in recreational activities of their choice. Organisations receiving grants for specific projects included national and State organisations for people with disabilities and local government authorities. The Committee undertook a national consultation in 1988 to consider the future direction of the Program and to determine strategies for action in 1988–89, including target areas for funding.

Australian Sports Commission—ASC

Following an announcement in September 1987, the ASC and the Australian Institute of Sport (AIS) have now merged. Those sports functions previously administered by the Department of the Arts, Sport, the Environment, Tourism and Territories have also been incorporated into the new organisation. The *Australian Sports Commission Act 1989* thus created a single authority to plan and coordinate Commonwealth assistance to sport.

The Australian Sports Commission is a statutory authority providing leadership and long-term direction for Australian sports development. In 1988–89, the Commonwealth Government provided $12.5 million for the Sports Commission's programs and administrative expenses, exclusive of the allocation for the AIS. Slightly more than $7.1 million of this was for sports programs. The Sports Development Program provides opportunities for increased participation in sport, and promotes the development of Australia's high performance athletes. It also assists with Australia's international standing in sport. Women's and children's sports are supported through the Sports Commission's Women's Sport Promotions Unit and the AUSSIE SPORTS program. Disabled and veterans' sports are also assisted.

The AIS, a Division of the ASC, provides high performance athletes with coaching in international standard facilities and with access to scientific and medical support. About 300 athletes were given scholarships in 1988 in basketball, canoeing, cricket, cycling, diving, gymnastics, hockey, netball, rowing, rugby union, soccer, squash, swimming, tennis, track and field, water polo and weight-lifting. Athletes at the AIS undertake either regular employment or pursue secondary or tertiary education.

In 1988 the AIS had 173 staff, including 51 sports coaches. Its headquarters are located at Bruce in the Australian Capital Territory. Units have been set up in Perth for hockey, Brisbane for squash and diving and Adelaide for cycling and cricket. Canoeing facilities are at Maroochydore, while rugby union, to be administered from Brisbane, will be available in Sydney and Canberra. In 1988–89 the Government is providing about $14.5 million of the Institute's $18 million budget for its operational, development and facilities costs. In addition to the residential sports program, the AIS also provides the National Sports Program which offers athletes the use of AIS facilities, resources and expertise. These assist with national selection trials, team training, talent development programs, coaches' seminars and workshops for sports officials.

Assistance to national sporting associations

The ASC provides financial assistance to national sporting associations. This includes employing national executive directors and coaching directors, contributing to international competitions, administrative support and development projects.

Sports Talent Encouragement Plan

The scheme provides direct financial assistance to world-ranked Australian individual athletes and teams and to athletes demonstrating a capacity to achieve world rankings. The assistance contributes towards the costs of training and competition. Assistance is also available to coaches.

Applied Sports Research Program

The Commission provides funds under the Applied Sports Research Program which enables national organisations to utilise tertiary institutions to carry out research related to their sport.

Children in sport

Assistance is provided to national sporting bodies to assist junior sports development. In addition, the Commission has established the AUSSIE SPORTS program to improve the quality and variety of sport for primary school children.

Equity and access

The Commission is also concerned to increase participation in sport among groups which have not had sufficient access to sporting opportunity. A Women's Sports Promotion Unit was established in 1987 to encourage women's participation and achievement in sport.

Drugs in sport

Funds have been provided to the National Program on Drugs in Sports Committee. This has enabled the employment of a full-time coordinator and the preparation of educational material. Drug testing programs are also being developed.

Australian Coaching Council

The Commission funds the position of Australian Coaching Council Director responsible for the National Coaching Accreditation Scheme and for the development of resource materials. The position reports directly to the Coaching Council, which is funded by the Commission.

Sport for people with disabilities

In 1987–88, $827,000 was allocated by the Government for sport and recreation for people with disabilities. Of this $617,633 was allocated for sport related projects. In 1988 a review of the Government's assistance to the disabled for sporting activities was completed and a Disabled Sport Program commenced in 1988–89. The objective of this Program is to encourage people with disabilities to participate in sport and to ensure they have the same opportunities as able-bodied people.

SOCIO–CULTURAL ACTIVITIES

Aside from organised or institutional forms of culture, there is a dimension of social practice which is cultural: most simply described as those activities or forms of activity which people undertake in their own time, unconstrained by immediate material need, social obligation or gain. Typically, these are activities which contribute to personal or social identity, which give meaning and focus to values that people hold, and which do not depend on outside subsidy or encouragement.

Language and religious practice, multicultural events, attitudes to and use of Aboriginal lands, and participation in adult education are all manifestations of socio cultural activity embedded in community life that have begun to attract interest from policy makers. They are indicators of attitudes to community identity in the wake of rapid changes to social composition, as well as simply mechanisms for cultural maintenance. They both anchor institutional forms of culture (which rely on commercial or governmental support) within the society, and provide a bridge to mutual understanding across culturally diverse groups.

Aboriginal and Islander Community

Impact of European settlement

The impact of British settlers from the end of the 18th century was disastrous for traditional Aboriginal society. Although the official policy of the first settlers was to establish peaceful relationships with the Aboriginal inhabitants of the colony, the Aboriginals gradually fell victim to violent confrontations with the settlers, plus alcohol and imported diseases.

The impact of alien diseases, such as measles and syphillis, with which Aboriginal people had had no previous contact and therefore no immune resistance, saw the population dwindle to about 60,000 after the first 100 years. Many tribal groups, languages and dialects died out, and the traditional ecological balance of Aboriginal life was destroyed.

By the end of the 19th century, special reserves, some run by church mission organisations, were set up in an attempt to protect the Aboriginals. Their numbers continued to decline during the 1920s and 1930s and governments were urged to take more positive action.

On the assumption that the European way of life was the more desirable, a policy of assimilation was adopted, particularly for those of mixed descent, who came to be a major group in the Aboriginal community. There was increased government spending on health services, housing, education and training, and by the 1950s the population decline was reversed.

The 1960s marked a fundamental redirection of Aboriginal affairs in Australia—with rejection of the States' and Northern Territory Native Welfare regimes; the development of the modern Aboriginal political movement and the establishment of concurrent Commonwealth responsibility with the States, leading to the establishment of the Council of Aboriginal Affairs and the Office of Aboriginal Affairs.

The 1970s saw a realisation of some of the promise of the 1960s—Federal funding, the *Aboriginal Land Rights (Northern Territory)* Act, important High Court decisions, the land rights movement and the establishment of new national Aboriginal social and political organisations.

People

At the 1986 Census, there were 227,645 Aboriginals and Torres Strait Islanders in Australia, or 1.5 per cent of the total population. Less than 25 per cent of them lived in cities of more than 100,000 people. One-third lived in rural areas, over twice the rural concentration of the population taken as a whole.

ABORIGINALS AND TORRES STRAIT ISLANDERS: URBAN/RURAL DISTRIBUTION, JUNE 1986

Section of State	*Aboriginals and Torres Strait Islanders*		*Total population*	
	No.	Per cent	No.	Per cent
Major urban (cities with more than 100,000 people)	55,537	24.4	9,817,933	62.9
Other urban (towns and cities with 1,000 to 99,999 people)	95,879	42.1	3,499,012	22.4
Rural	76,229	33.5	2,285,211	14.6
Total	**227,645**	**100.0**	**15,602,156**	**100.0**

Government policies

Federal government policies aim to preserve the cultural identity of the Aboriginal people and to enhance their dignity and general well-being by achieving a situation of justice and equality where Aboriginal people have sufficient economic and social independence to enjoy fully their civil, political, social and economic rights as Australian citizens.

Funds expended on Aboriginal advancement programs administered by the Department of Aboriginal Affairs increased by 7 per cent in 1987–88 to $379.0 million. Total spending on Aboriginal advancement programs by Federal Government departments in 1987–88 totalled $656.2 million, representing a 60.6 per cent increase in real terms since 1983.

Consultation

In December 1987 the Government announced a major restructuring of its Federal Aboriginal organisations.

Following extensive consultation with Aboriginal people the Government established the Aboriginal and Torres Strait Islander Commission (ATSIC) to take over the role and functions of the Department of Aboriginal Affairs, the Aboriginal Development Commission, Aboriginal Hostels Limited and the Australian Institute of Aboriginal Studies.

The new Commission will, for the first time, formally combine the consultative functions with the administrative functions undertaken by the four government bodies.

Through rationalisation of resources, including field offices, the proposed Commission will result in a more streamlined, efficient and responsive administration of Aboriginal affairs than at any previous time.

Aboriginal Land

The philosophy that secure land ownership is essential to providing Aboriginals with freedom of choice in life style and a means for preserving their traditions, known as 'land rights', has been supported by all major parties at the Federal level of Australian politics.

Aboriginal Land Rights (Northern Territory) Act

The *Aboriginal Land Rights (Northern Territory) Act 1976* came into operation on Australia Day 1977. The Act gives recognition to Aboriginal land rights in the Northern Territory and is based on the recommendation of the second report of the Aboriginal Land Rights Commission.

Under the Act, Aboriginals have been granted title to former Aboriginal reserves and a mechanism has been established for the hearing of claims to unalienated Crown land. Claims are heard by an Aboriginal Land Commissioner who determines whether there are traditional owners to the land concerned and makes recommendations to the Government on the grant of the land.

The form of title provided for by the Act is inalienable freehold, which ensures security of tenure for future generations of traditional Aboriginal owners as the land cannot be sold or mortgaged. Title is held by Land Trusts composed of traditional Aboriginal owners and/or residents of the area.

Thirty-three per cent (448,633 sq km) of the land in the Northern Territory has been granted under the Act. Of this, over half is former Aboriginal reserve or mission land. Another 12 per cent of Northern Territory land is presently under claim.

The Act also provides for the establishment of Aboriginal Land Councils to act as agents for traditional Aboriginal owners on land matters. Presently, there are three Land Councils—the Tiwi Land Council (covering Melville and Bathurst Islands), the Northern Land Council (based in Darwin) and the Central Land Council (based in Alice Springs).

Provision is made under the Act for traditional Aboriginal owners to exercise substantial control over activities on their land, including mineral exploration and mining, and for them to benefit economically from the use of their land.

Where mining occurs on Aboriginal land, the Act provides that amounts equivalent to royalties received by the Northern Territory or the Commonwealth are paid from the Commonwealth's Consolidated Revenue Fund into the Aboriginals Benefit Trust Account (ABTA). Thirty per cent of these moneys is for the benefit of Aboriginal communities affected by mining and 40 per cent is paid to the Land Councils to fund their administrative expenses. The remaining 30 per cent (less amounts needed for ABTA administration and supplementary payments to land Councils for their administration) is available for the benefit of Aboriginals throughout the Northern Territory.

National parks on Aboriginal land in the Northern Territory

In the Northern Territory a unique system is operating for certain national parks located on Aboriginal land. All of the land in the Uluru National Park and some of the land in the Kakadu National Park has been granted to appropriate Aboriginal land trusts, and then leased back to the Director, Australian National Parks and Wildlife Service (ANPWS) for use as national parks under the provisions of the *Aboriginal Land Rights (Northern Territory) Act 1976* and the *National Parks and Wildlife Conservation Act 1975*.

In Uluru National Park a Board of Management with an Aboriginal majority has been established to manage the Park in conjunction with ANPWS. Similar arrangements are being negotiated between the Northern Land Council (on behalf of traditional owners) and the ANPWS to apply in the Kakadu National Park.

In 1986 the Uluru (Ayers Rock–Mount Olga) National Park was nominated for world heritage listing by the Commonwealth with the support of the Northern Territory. The Park was inscribed on the World Heritage List in 1987. The second stage of the Kakadu National Park was also nominated for world heritage listing in 1987 and was inscribed on the World Heritage List the same year. The first stage of that Park had been listed in 1981.

Similar management arrangements exist in relation to the land in the Gurig National Park which was granted to the traditional Aboriginal owners in 1981 by the Northern Territory Government under the *Cobourg Peninsula Aboriginal Land and Sanctuary Act 1981*.

Aboriginal land in the States

The list below shows the areas of land that have been transferred to Aboriginal ownership or otherwise provided to Aboriginals under secure title through the policies and programs operated by Commonwealth and State/Territory Governments.

Australian Capital Territory: In the Jervis Bay Territory the Commonwealth legislated to provide inalienable freehold title to 403 hectares of land at Wreck Bay for the Wreck Bay Aboriginal community. That legislation, the *Aboriginal Land Grant (Jervis Bay Territory) Act 1986*, came into effect on 16 January 1987. Title to that land was handed over in March 1987.

New South Wales: The *Aboriginal Land Rights Act 1983* created a three-tiered structure of local, regional and State Aboriginal Land Councils which hold freehold title to land totalling approximately 190 square kilometres. Land Councils may make claims to Crown lands that are not occupied and not needed for essential purposes.

The Act also provided for the payment into a fund of 7.5 per cent of the State land tax revenue over the ensuing 15 years. Half of this fund is set aside as capital for future years, with the balance meeting the costs of Land Council administration and land purchases.

Victoria: The *Aboriginal Land Rights Act 1970* vested title to the Lake Tyers and Framlingham Reserves (the only remaining Aboriginal reserves in Victoria) in trusts comprised of the Aboriginal residents.

In 1987, following a request from the Victorian State Government, the Commonwealth Government enacted legislation to grant freehold title over the Framlingham Forest and a former reserve at Lake Condah—1,153 hectares in all—to the local Aboriginal communities.

Queensland: Legislation passed in 1984 improved Aboriginal control over reserve lands without granting full title. Transfer of title under Deeds of Grant in Trust (a form of perpetual lease) to major Aboriginal and Torres Strait Island reserves took place during 1986 and 1987. The issuing of deeds to a large number of minor reserves is still under consideration.

Western Australia: Under the *Aboriginal Affairs Planning Authority Act 1972*, Aboriginal reserve land was vested in an Aboriginal Land Trust. In March 1986, following the defeat of an Aboriginal land bill in the Upper House of Parliament, the State Government announced a new program intended to grant Aboriginal communities secure title to land and to provide for services by administrative arrangement without the need for legislation.

Some of the measures included under this program are:

- the granting of 99-year leases to Aboriginal Land Trust land;
- the transfer of other reserves under the control of the State Department of Community Services to Aboriginal control; and
- facilitation of the excision from pastoral leases of living areas for Aboriginals.

South Australia: The Aboriginal Land Trust of South Australia, established by an Act of Parliament in 1966, holds freehold title to former reserves (approximately 5,000 square kilometres). The Trust leases this land to Aboriginal communities.

The *Pitjantjatjara Land Rights Act 1981* vested freehold title to over 100,000 square kilometres, or 10 per cent of the State, in the north-west to the Pitjantjatjara people. In 1984, similar legislation provided for Aboriginal ownership of 76,000 square kilometres of the Maralinga lands in the far west of the State.

Tasmania: In 1986, the Commonwealth Minister for Aboriginal Affairs commissioned a report on Aboriginal land needs in Tasmania. To date the Tasmanian Government has not agreed to transfer title to any historically or archaeologically significant sites.

ABORIGINAL LAND TENURE AND POPULATION: 31 JULY 1988

	Aboriginal population June 1986	*As % of total population*	*Total land area (sq km)*	*Aboriginal freehold (sq km)*	*As % of total land*	*Aboriginal leasehold (sq km)*	*As % of total land*	*Reserve/ mission (sq km)*	*As % of total land*
NSW and ACT	60,231	1.0	801,000	190	0.0	830	0.1	—	—
Vic.	12,611	0.3	227,600	31	0.0	—	—	—	—
Qld	61,268	2.4	1,727,200	5	0.0	27,467	1.6	6,628	0.3
SA	14,291	1.1	984,000	183,726	18.7	507	0.1	—	—
WA	37,789	2.7	2,525,000	28	0.0	42,596	1.7	185,192	7.3
Tas.	6,716	1.5	67,800	2	0.0	—	—	—	—
NT	34,739	22.4	1,346,200	448,633	33.3	24,828	1.8	45	0.0
Australia	**227,645**	**1.5**	**7,681,800**	**632,615**	**8.2**	**96,228**	**1.3**	**191,865**	**2.5**

Homeland centres and outstations

Since the early 1970s many Aboriginal people have made the decision to adopt a more independent and traditional way of life.

They have moved to remote areas where they have established small outstation communities. In early 1986, there were about 500 such communities, mostly in remote areas of Western Australia, the Northern Territory and Queensland. Populations generally varied between 30 and 50 people.

Over the past three years a total of $16.5 million has been spent in developing 141 outstation resource centres, which provide services for a number of outstations in a particular area.

Aboriginal Cultural Activity

Arts

A modern resurgence of Aboriginal arts continues rich traditions spanning tens of thousands of years, but incorporates many new forms.

Aboriginal artistic expression ranges across art, music, dance, oral and written literature, graphic design, video and film. Some artistic forms draw heavily on ancient traditions but present a vibrant and living heritage which remains relevant to Aboriginal Australians.

Aboriginal art varies greatly in style and form from one area of Australia to another but retains a spirituality which gives a distinctiveness and common strength to the work. Artists in the tropical north of Australia are well known for their painting with natural ochres on bark but artists from Papunya in Central Australia, for example, express the themes of traditional sand drawings with acrylic paint on canvas and board. In recent times large canvasses have been introduced which help the paintings to reflect the scale of traditional sand designs, and artists have developed their traditional themes with new materials and colours to provide immense contemporary impact. Considerable success is being enjoyed in exhibitions of these paintings in major art centres in Australia as well as in Europe and America.

Aboriginal musicians, whose music ranges from traditional song to rock and country music, are popular both in Australia and overseas. Aboriginal writers, poets and playwrights are also an emerging force in Australian literature.

The Aboriginal Arts Board of the Australia Council has established a wide range of programs to assist Aboriginal initiatives. These include: the Aboriginal and Islander Skills Development Scheme (a theatre and dance school); Inada Holdings Pty Ltd (a commercial art and craft marketing company); the Centre for Aboriginal Studies in Music; and an association of Aboriginal writers, dramatists and people involved in oral literature.

Broadcasting and telecommunications

The Government has endorsed a strategy for the development of Aboriginal broadcasting and telecommunications which aims to ensure that appropriate broadcasting and communications services are available to Aboriginals, particularly the substantial Aboriginal population living in remote Australia.

This is a new and developing area of government responsibility, and policies in relation to it resulted from recommendations of a Task Force Report on Aboriginal and Islander Broadcasting and Communications titled *Out of the Silent Land*, published in 1984.

The policies were developed in consultation with Aboriginal broadcasters, the Department of Transport and Communications, the Australian Telecommunications Commission, the Australian Broadcasting Corporation and the Special Broadcasting Service.

The Government supports financially Aboriginal broadcasting resource groups in urban, rural and remote areas to enable them to produce radio and television material of relevance to local communities. Some of this material is being incorporated into programs for wider audiences, including metropolitan centres.

In 1986–87, more than 30 Aboriginal groups produced about 150 hours of public radio programming per week. In addition, the Central Australian Aboriginal Media Association broadcasts through the Australian Broadcasting Corporation high frequency inland service for up to 10 hours a day in four Aboriginal languages.

Implementation of the Broadcasting for Remote Aboriginal Communities Scheme (BRACS) is presently taking place. The Scheme resulted from recommendations of the Task Force Report on Aboriginal and Islander Broadcasting and Communications and was endorsed by the Government in October 1985. The BRACS program provides satellite reception and local re-broadcasting equipment for television and radio services and facilities for local organisation programs for remote Aboriginal and Torres Strait Islander communities which do not receive any radio or television services.

Language Practices

In the 1986 Census people were asked whether they spoke a language other than English at home. Among those who stated that they did, 405,000 (21 per cent) spoke Italian and a further 267,100 (14 per cent) spoke Greek. These were the two most prevalent responses, with other responses each representing less than 10 per cent. Altogether over 2 million people, most of whom were born overseas, spoke a non-English language at home.

Proficiency in English varied according to age and birthplace. Ninety-two per cent of 5–24 year olds spoke English well or very well, compared with 57 per cent of those aged 65 years and over. The influence of birthplace was evident in the consistently higher level of proficiency in English among those born in Australia: 94 per cent of this group spoke English well or very well, compared with 81 per cent overall.

PERSONS (a) WHO SPOKE A LANGUAGE OTHER THAN ENGLISH AT HOME: LANGUAGE BY SEX AND BIRTHPLACE, JUNE 1986

Language spoken	*Males*	*Females*	*Total*		*Australian born*
	'000	'000	'000	per cent	'000
Italian	206.0	199.0	405.0	20.6	158.7
Greek	135.2	131.9	267.1	13.6	111.7
Chinese	65.2	65.6	130.8	6.7	11.0
German	52.9	56.6	109.4	5.6	21.4
Arabic/Lebanese	55.2	50.9	106.0	5.4	31.1
Spanish	35.2	32.5	68.0	3.5	10.2
Serbian, Croatian	34.4	32.2	66.6	3.4	20.7
Other Yugoslav	35.5	32.5	68.0	3.5	16.1
Polish	32.6	33.6	66.2	3.4	9.6
Dutch	29.4	32.0	61.4	3.1	7.6
Vietnamese	34.1	25.3	59.4	3.0	1.6
Maltese	29.7	28.2	57.8	2.9	15.5
French	24.8	26.6	51.4	2.6	15.5
Macedonian	22.1	21.0	43.1	2.2	14.1
Aboriginal languages	18.4	18.6	36.9	1.9	36.7
Turkish	16.2	15.1	31.2	1.6	6.1
Hungarian	15.5	15.4	30.9	1.6	5.0
Russian	9.9	11.8	21.7	1.1	4.0
Other	141.7	140.9	282.7	14.4	61.5
Total *(b)* **('000)**	**1,022.4**	**1,000.5**	**2,022.8**	**100.0**	**568.2**

(a) Excludes children aged under 5 years. *(b)* Includes language not stated responses.

PERSONS WHO SPOKE A LANGUAGE OTHER THAN ENGLISH AT HOME: PROFICIENCY IN ENGLISH BY BIRTHPLACE AND AGE, JUNE 1986

	Age (years)				
Proficiency in English	*5–24*	*25–44*	*45–64*	*65 and over*	*Total*
	—per cent—				
Total population					
Speaks English:					
Well/very well	92.2	82.1	71.9	57.0	80.7
Not well	6.8	16.4	24.4	28.6	16.3
Not at all	1.0	1.6	3.7	14.4	3.0
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Total *(a)* **('000)**	**647.0**	**667.4**	**504.2**	**170.3**	**1,989.0**
Australian born					
Speaks English:					
Well/very well	95.6	94.2	86.1	74.4	94.4
Not well	3.9	5.1	11.6	17.7	4.8
Not at all	0.5	0.7	2.2	7.9	0.8
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Total *(a)* **('000)**	**403.2**	**124.0**	**32.8**	**14.4**	**574.4**

(a) Includes proficiency in English not stated but excludes language spoken not stated.

National Policy on Languages

Australia's National Policy on Languages was developed in response to a report of the Senate Standing Committee on Education and the Arts which recommended the development and coordination of language policies at the national level. A special consultant was appointed to coordinate their development. The Lo Bianco Report which resulted was endorsed by the Prime Minister on 26 April 1987 and tabled in the Senate on 4 May 1987.

The Government provided $15 million in 1987–88, rising to $28 million in 1988–89, for the implementation of the Policy. These funds were used to introduce five new programs and supplement one existing program in key language areas, and for the establishment and operation of the Australian Advisory Council on Languages and Multicultural Education (AACLAME).

The new programs were the National Aboriginal Languages Program, the Australian Second Language Learning Program, the Adult Literacy Action Campaign, the Multicultural and Cross-cultural Supplementation Program, and the Asian Studies Program. The existing program which was supplemented was the New Arrivals element of the English as a Second Language Program.

National Aboriginal Language Program—NALP

The NALP recognises the unique and important place of Aboriginal and Torres Strait Islander languages in Australia's linguistic heritage.

Funding for the program was $0.5 million for 1987–88, rising to $1 million for both 1988–89 and 1989–90. The funds are intended to support a range of language maintenance and learning projects such as:

- language resource centres;
- bilingual programs;
- translating and interpreting services;
- literacy programs.

Thirty-nine projects were approved for funding in 1987–88 by the Minister for Employment, Education and Training. Some of the factors taken into account when selecting the projects included the state of the language concerned; the degree of Aboriginal support and involvement; and the degree of funding available to an organisation or community from other sources.

Australian Second Language Learning Program—ASLLP

The National Policy on Languages promotes the study of at least one language in addition to English as an expected part of the educational experience of all Australian students. ASLLP, funded under the National Policy on Languages, is intended to provide greater opportunities for this to occur. An amount of $3.8 million was made available under the program in the 1987–88 budget. This funding, which increases to $7.5 million in 1988–89 and 1989–90, is to be applied on a calendar year basis.

For 1988, education authorities were free to allocate funds among languages according to locally determined priorities and needs. Authorities were asked, however, to take note of the Federal Government's view that due emphasis should be placed on languages relevant to economic development, trade and tourism whilst recognising the need to improve provision for community languages.

ASLLP provided for activities such as curriculum and materials development; the professional development of teachers; the expansion of existing programs; the trialling of innovative techniques in second language teaching and learning; support for schools offering a specialist curriculum on language studies; and the application of distance technology to language learning, particularly for students in country areas.

Adult Literacy Action Campaign

Funding provided under the National Policy on Languages is additional to existing funding provided for adult literacy activities under the States Grants (Tertiary Assistance) Act and the Non-government Adult Education Program which in 1988 amounted to $1.089 million and $1.385 million respectively. The funding provided under the States Grants program is made available to State TAFE authorities for recurrent activities such as the provision of courses, literacy area coordinators, publicity, curriculum and staff development. Under the Non-government Adult Education Program, which commenced in 1977, a range of activities including adult literacy and numeracy instruction were provided by a variety of community agencies outside the formal educational sector. In 1988 literacy activities are a priority under this program.

Multicultural and Cross-cultural Supplementation Program—MACSP

In 1987–88 MACSP provided funds on a submission basis to tertiary institutions and approved organisations to support the introduction and extension of cross-cultural and community language elements within existing professional and para-professional courses and develop curriculum materials for use in such courses.

The professional or para-professional areas targeted by the program include medicine and health, law, accounting and commerce, industrial relations and management, teaching, social welfare, librarianship and archives administration, and tourism.

Asian Studies

The Asian Studies Council (ASC) administers funds of $1.85 million which were allocated for 1987–88, 1988–89 and 1989–90 under the National Policy on Languages to boost the study of Asian languages and cultures in Australia.

The ASC has negotiated a collaborative approach between State, Territory and non-government education authorities to the development of curriculum and teacher training, with one or more States taking prime responsibility for agreed projects. Project designs include processes to keep all parties informed of developments so that the final products will be mutually acceptable.

The ASC is also funding a major inquiry into the teaching of Asian languages and studies in higher education. The inquiry will review the current situation in higher education and define what changes are necessary in order to meet Australia's requirements for Asian studies into the next century. The inquiry has ministerial endorsement and will run for eight months, with an allocation of $45,814 from the 1987–88 National Policy on Languages (ESL) budget.

English as a Second Language (ESL) for New Arrivals

Under the National Policy on Languages funding was provided for the doubling, in real terms, of the per student rate of funding payable to education authorities involved in the provision of ESL instruction for newly arrived students from 1988 onwards. The per capita rate is now $2,057 which will be paid to education authorities in accordance with existing administrative procedures.

In 1987 a total of 14,040 students were assisted as new arrivals under the ESL Program. Based on projected increases in the overall immigration program for both the 1987–88 and the 1988–89 financial years, this number was likely to increase to around 15,000 in 1988.

English as a Second Language in schools

The objective of the English as a Second Language Program is to assist schools and school systems to develop the English language competence of students of non-English speaking background (NESB).

The program has three elements:

- The *general support element* provides approximately $42 million annually to assist schools and education authorities with the provision of specialist services specifically directed at improving the English language competence of NESB students resident in Australia (including those born in Australia).
- The *new arrivals element* provides $2,082 per student for intensive English language programs for newly arrived NESB students.
- The *language teaching element* provides $4.3 million in assistance for specialist and/or 'mainstream' teachers to address the English language needs of NESB students in their classes.

In 1987, 12,316 new arrivals were catered for in intensive classes in government schools and special language centres and 1,790 in non-government schools. Details are not yet available for activities funded in 1987 under ESL program elements. Information in respect of 1986 for five States shows that some 90,000 government school students and 48,000 non-government students benefited from activities funded through the general support element. The per student allocation varied from $188 to $2,000 among systems indicating the diverse levels of ESL needs of children participating. Over 2,000 teachers were funded under all elements in government schools and over 400 in non-government schools. Other major items of expenditure involved the salaries of ancillary staff (consultants, bilingual aides, counselling staff), curriculum and other materials and professional development.

Ethnic Schools Program

The major purpose of the Ethnic Schools Program is to help students of non-English speaking background maintain their relevant languages and cultures. A secondary aim is to provide further opportunities for all children to gain access to the different community languages and cultures within Australian society.

The Ethnic Schools Program assists some 700 ethnic community organisations to operate classes in the languages and cultures of their communities. These classes may be held either after formal school hours (after hours classes) or during formal school hours (insertion classes). 'Ethnic' in this context is used to denote languages and cultures other than those of English-speaking peoples. The Ethnic Schools Program does not apply to language and cultural studies provided by formal schools. This Commonwealth funding program has been operating since 1981, and since 1984, groups providing instruction in Aboriginal and Torres Strait Islander languages and cultures have been eligible to receive funding under it.

In 1987, 209,810 students were funded with 71,056 of these being taught in classes outside regular school hours, the remainder in insertion classes in regular schools.

The number of languages funded in 1987 was 53 with the most popular being Italian (65 per cent of enrolments), Greek (12 per cent), Arabic (5.3 per cent), Chinese (5.1 per cent) and Vietnamese (2.4 per cent). Details of major languages funded and student enrolments in recent years are shown below.

ETHNIC SCHOOLS PROGRAM: ENROLMENTS BY TYPE OF CLASS

Type of class	*1985*	*1986*	*1987*
		—No. of students—	
After hours classes	83,916	82,745	71,056
Insertion classes	104,647	140,478	138,754
Total	*188,563*	*223,223*	*209,810*

ETHNIC SCHOOLS PROGRAM: FUNDING TO MAJOR LANGUAGES

Language	*1985*	*1986*	*1987*
		—per cent—	
Italian	53.9	60.9	64.8
Greek	15.5	12.6	11.6
Arabic	7.5	6.4	5.3
Chinese	5.5	5.0	5.1
Vietnamese	2.5	2.5	2.4
Spanish	1.8	1.6	1.4
Turkish	1.6	1.5	1.2
German	1.4	1.1	0.9
Croatian	1.6	1.2	0.8
Polish	1.0	0.9	0.7
Hebrew	1.1	0.8	0.7
Macedonian	1.1	0.7	0.7

Adult Education

Adult education is the most decentralised of the education sectors. Courses offered generally do not lead to a qualification. It provides many people with educational opportunities otherwise unavailable, and while it is considered a valuable starting point in encouraging people to go on to award studies in TAFE and higher education, it also fulfils many cultural and recreational roles. The range of providers is enormous: from commercial and private industry, church and cultural groups to professional bodies; from the YMCA, higher education institutions, TAFE and Workers Educational Associations, to various State government departments; from public libraries, museums and galleries to Commonwealth government funded programs.

Throughout the 1980s there has been a significant growth in non-government community based adult education run on a voluntary or semi-voluntary basis. These courses originate from the requirements, demands and initiatives of local communities and are offered by learning centres, community care centres, community schools, education centres (particularly in country areas), voluntary teaching networks, literacy groups, women's education programs, teachers' centres, ethnic networks, discussion centres and a variety of neighbourhood centres. Courses range from general interest, recreational and leisure activities, personal development, social awareness and craft through to vocational, remedial and basic education. Community based adult education constitutes a new trend in education. It is open to all, and non-formal characteristics demonstrate the capacity of the community to develop alternatives to institutionalised education. It is estimated that in 1987 there were nearly 200,000 participants in these courses.

The higher education sector plays an integral part in adult education through programs of continuing education in professional development, preparatory skills, and general education. These courses are offered by institutions in response to industry and government initiatives and are at a level consistent with the general teaching of the institutions. In 1984, enrolments in these programs exceeded 160,000.

The TAFE sector is the largest provider of adult recreational and leisure courses. 1986 enrolments in these courses were 492,032. TAFE also offers the largest program of vocational and remedial courses.

There is at present no statistical system to identify the entire scope and extent of adult education. In particular the number of courses run by associations and the private sector is unknown. However, the 1986–87 National Social Science Survey now gives a better basis for estimating participation rates in adult education. The survey found that about six out of every ten Australians (63 per cent) over the age of 18 have taken at least one course. Men and women are about equally likely to take courses. Overall it is estimated that more than one million Australians participate in adult education each year.

Cultural and Community Activities

Religious affiliation

According to the 1986 Census results, Australians were predominantly Christian. Catholics formed the largest group, representing 26 per cent of the total population, followed by Anglicans, 24 per cent. This reverses the situation in 1976 when the Anglican group dominated with 28 per cent. In 1986 the third largest group was the Uniting Church with 8 per cent. In all, 11.4 million Australians (73 per cent) referred to themselves as being of Christian denomination.

Affiliation with a non-Christian religion was claimed by 316,000 Australians (2 per cent of the population). This was an increase of almost 150 per cent on 1976 when less than 1 per cent claimed non-Christian affiliation. At that time the Jewish group was the largest with 53,000 people. By 1986 the main non-Christian religions were Muslim (110,000) and Buddhist (80,000), while those affiliated with the Jewish religion numbered 69,000.

Almost 2 million Australians (13 per cent of the total population) described themselves in 1986 as having no religion.

RELIGIOUS AFFILIATION, AUSTRALIA

	1976		*1986*	
Religion	*('000)*	*(per cent)*	*('000)*	*(per cent)*
Christian				
Catholic *(a)*	3,482.8	25.7	4,064.4	26.1
Anglican	3,752.2	27.7	3,723.4	23.9
Uniting *(b)*	—	—	1,182.3	7.6
Methodist—incl. Wesleyan	983.2	7.3	*(c)*	*(c)*
Presbyterian and Reformed	900.0	6.6	560.0	3.6
Orthodox	372.2	2.7	427.4	2.7
Lutheran	191.5	1.4	208.3	1.3
Baptist	174.2	1.3	196.8	1.3
Pentecostal	38.4	0.3	107.0	0.7
Churches of Christ	86.9	0.6	88.5	0.6
Salvation Army	63.3	0.5	77.8	0.5
Jehovah's Witness	41.4	0.3	66.5	0.4
Seventh Day Adventist	41.5	0.3	48.0	0.3
Latter Day Saints/Mormon	*(d)*	*(d)*	35.5	0.2
Brethren	20.7	0.2	23.2	0.1
Congregational	53.4	0.4	16.6	0.1
Oriental Christian	*(d)*	*(d)*	10.4	0.1
Other Protestant	206.2	1.5	199.4	1.3
Christian n.e.i.	236.9	1.7	346.4	2.2
Total	*10,644.9*	*78.6*	*11,381.9*	*73.0*
Non-Christian				
Muslim	45.2	0.3	109.5	0.7
Buddhist	*(e)*	*(e)*	80.4	0.5
Jewish	53.4	0.4	69.1	0.4
Hindu	*(e)*	*(e)*	21.5	0.1
Other non-Christian	30.4	0.2	35.7	0.2
Total	*129.1*	*1.0*	*316.2*	*2.0*
Other				
Non-theistic	*(f)*	*(f)*	4.9	—
Inadequately described	51.3	0.4	58.0	0.4
No religion (so described)	1,130.3	8.3	1,977.5	12.7
Not stated	1,593.0	11.8	1,863.6	11.9
Total	**13,548.4**	**100.0**	**15,602.2**	**100.0**

(a) Roman Catholic and Catholic (non-Roman). *(b)* The Uniting Church was formed in 1977 from the Methodist, Congregational and part of the Presbyterian churches. *(c)* People who responded Methodist in 1986 were coded to Uniting. *(d)* Included in Christian n.e.i. *(e)* Included in other non-Christian. *(f)* Not available.

ENVIRONMENT AND CONSERVATION

The Australian Constitution does not include a reference to environment or conservation. Commonwealth powers in environmental protection, nature conservation and related fields arise from, or are incidental to, other specified powers. These specific Commonwealth powers include the power to legislate with respect to Territories of the Commonwealth, overseas and interstate trade and commerce, external affairs, corporations, taxation, defence, quarantine and granting financial assistance to States. Effectively the powers relating to environment and conservation are divided among Commonwealth, State and local government. As a practical matter however, most decisions on environmental protection, nature conservation, land use and land management in the States are the responsibility of the State governments.

The *Environment Protection (Impact of Proposals) Act 1974* was the first piece of Commonwealth legislation to specifically address environmental issues. The Act defined environment as comprising 'all aspects of the surroundings of human beings, whether affecting them as individuals or in social groupings', and set up procedures to review the environmental impact of development proposals which involved Commonwealth Government decisions.

Since then, the Government has intervened on a number of occasions where environmental values were attracting broad community attention, notably the mining of Fraser Island in Queensland and the damming of the Franklin River in South West Tasmania. Through these and other actions, the Commonwealth Government has been drawn into areas of environmental policy, planning and management not adequately covered by existing State administrative arrangements.

Commonwealth Responsibility for Environment and Conservation

In Commonwealth legislation, environment includes all aspects of human surroundings, whether affecting individuals or social groupings. Thus the environmental responsibilities of the Government relate to a broad range of activities bearing on the protection, conservation and enhancement of environmental quality and amenity. These responsibilities are shared among many agencies of government although a special focus is provided by the Ministry of the Arts, Sport, the Environment, Tourism and Territories.

The Commonwealth is responsible for the environment of the Territories other than the Northern Territory and the ACT, for the environmental impact of actions and decisions by its agencies operating in the States, and for contributing to international activities and standards for environmental management. The Commonwealth also plays a major role in the national coordination of environmental protection and conservation activities, and contributes substantively to environmental research, environmental education and information exchange.

National Activities

National collaboration on environmental matters is facilitated through Commonwealth and State ministerial councils and other advisory bodies, and through a variety of nationally coordinated activities and programs.

Australian Environment Council

The Australian Environment Council was established in 1972 by agreement between the Prime Minister and the State Premiers. The members of the Council are the ministers responsible for environmental matters in each State, internal Territory and the Commonwealth Government. New Zealand and Papua New Guinea have observer status on the Council.

The Council provides a forum for consultation, cooperation and liaison on matters concerning environmental management and pollution control. These matters have included the control of emissions and noise from motor vehicles, the use and disposal of hazardous chemicals, noise control, water quality, air pollution, solid-waste management, the economics of pollution abatement policies and environmental impact assessment, coastal management, land use policy, biotechnology and climate changes induced by human activities.

Council of Nature Conservation Ministers

The Council of Nature Conservation Ministers was established in 1974 by agreement between the Prime Minister and State Premiers. It comprises ministers with nature conservation responsibilities in each State, internal Territory and the Commonwealth Government as well as the Commonwealth Minister responsible for the Commonwealth Scientific and Industrial Research Organization. New Zealand and Papua New Guinea have observer status on the Council.

The Council provides a forum for consultation, cooperation and liaison on matters relating to the conservation and management of Australia's flora and fauna. Specific matters considered by the Council have included trafficking in native animals and plants, culling of populations of native species, protection of endangered and threatened plants and animals, the control of diseases affecting or likely to affect natural ecosystems in Australia, ranger training, management of national parks, and identification of wilderness areas.

Australian Ionising Radiation Advisory Council

The Australian Ionising Radiation Advisory Council advises the Government on matters such as fall-out over Australia from nuclear weapons testing, health effects of exposure to ionising radiation, radioactive waste management, visits of nuclear powered warships, and licensing and regulation of nuclear activities.

National Conservation Strategy for Australia

Following the international launch of the World Conservation Strategy in 1980, the Commonwealth Government, all States and the Northern Territory agreed to cooperate in developing a National Conservation Strategy for Australia which would aim to achieve 'sustainable development'—that is, harmony between development and conservation of Australia's living resources and supporting ecosystems. After wide consultation with the States, non-government conservation groups, industry and the community, consensus was obtained on a strategy at a national conference held in June 1983.

The Commonwealth Government endorsed the National Conservation Strategy for Australia in June 1984. The Northern Territory and most State governments have also endorsed the Strategy. Victoria and Western Australia have prepared State Conservation Strategies. In various ways, all governments have undertaken nature conservation activities consistent with the aims of the National Conservation Strategy.

National Tree Program

The National Tree Program aims to conserve and establish trees and associated vegetation for community and private benefit throughout Australia. The objectives of the program are to increase selectively rural tree cover, promote coordinated action by individuals, governments and the community generally to conserve, plant and regenerate trees, and to develop public awareness of the value of trees.

Links with the Community Employment Program enabled implementation of several major revegetation projects, particularly in rural areas. A national tree data base (TREDAT) has been established.

Rainforest conservation

The Federal Government agreed to provide $22.5 million over the two years to 1987–88 for a National Rainforest Conservation Program which included, inter alia, studies of the tourism potential of certain rainforests and funding of interpretative and visitor facilities.

Australian Biological Resources Study

The Australian Biological Resources Study (ABRS) was established in 1973 to stimulate taxonomic and ecological studies of Australian flora and fauna through the provision of grants for research and publication. ABRS responsibilities include provision of advice on national taxonomic collections and establishment and maintenance of a national taxonomic data bank. Much of the work of the study is done in State museums, botanic gardens and herbaria which were established during the last century. CSIRO also carries out important research relating to flora and fauna.

Current major projects of ABRS include preparation of a 60 volume *Flora of Australia*, a 10 volume *Fauna of Australia*, compilation of a 70 volume *Zoological Catalogue of Australia* and establishment of data base exchange systems for museums and herbaria for biogeographic and taxonomic information.

Environmental research

The Department undertakes studies into Australian environmental issues and produces annual reports on the state of the environment in Australia. The CSIRO, universities and State environment agencies also carry out studies which contribute to the development of policies for environment protection, conservation and management of natural resources.

INFOTERRA

The Department of the Arts, Sport, the Environment, Tourism and Territories is the Australian national focal point for INFOTERRA. INFOTERRA is an international information network, developed by the United Nations Environment Programme, to assist organisations and individuals in locating the sources of environmental information. The Department is also the INFOTERRA regional service centre for South-East Asia and the South Pacific. Its function is to assist countries within the region and to improve their environmental information capability and service.

Control of environmental contaminants

Various programs are concerned with the control of environmental contaminants. Final plans are being made for a national chemicals notification and assessment scheme. The Environment Protection (Sea Dumping) Act controls dumping of wastes in marine waters. National capacity for monitoring air pollution is being strengthened through a national monitoring, data acquisition and archiving program being implemented in conjunction with the States. Other activities cover codes of practice for activities involving radioactive materials, waste management, monitoring of the marine environment, environmental noise and air pollution control strategies.

Voluntary conservation organisations

The Commonwealth Government makes grants annually to voluntary conservation organisations to assist them in their environmental awareness and education campaigns.

Statutory Authorities

Australian National Parks and Wildlife Service—ANPWS

The ANPWS was established under the *National Parks and Wildlife Conservation Act 1975*. The ANPWS is the principal adviser to the Commonwealth Government on national nature conservation and wildlife policies. It works in close cooperation with other Commonwealth authorities and with relevant State and Territory agencies.

The ANPWS is responsible for management of parks and reserves declared under the Act. Most significant of these are Kakadu National Park and Uluru (Ayers Rock–Mount Olga) National Park in the Northern Territory. National parks are also declared on Norfolk Island and Christmas Island and four national nature reserves have been declared in Australian waters. Ningaloo Marine Park is declared jointly under the National Parks and Wildlife Conservation Act and Western Australian legislation.

Wildlife conservation and management programs include the regulation and control of trade in wildlife and wildlife products through the administration of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982*; administration of the *Whale Protection Act 1980*; administration of certain international agreements; and cooperative programs with the States with an emphasis on rare and endangered species.

The ANPWS is also charged with the delivery of programs to enhance Aboriginal employment and development opportunities in nature conservation and land management related fields.

In addition the ANPWS carries out and supports research relevant to its charter and delivers public information and education programs on nature conservation issues.

Great Barrier Reef Marine Park Authority

This Authority was established by the *Great Barrier Reef Marine Park Act 1975* which provides for the establishment, control, care and development of a marine park in the Great Barrier Reef Region. The Marine Park covers an area of 344,000 square kilometres representing 98.5 per cent of the region. Management of the Marine Park is a cooperative venture with Queensland Government agencies. The main strategy used in management of the Park is 'zoning'. Zoning plans separate potentially conflicting activities while allowing all reasonable uses and ensuring the long-term conservation of the Reef's ecosystem.

Supervising Scientist for the Alligator Rivers region

Special arrangements have been made for minimising the environmental impact of uranium developments in the Northern Territory. The Commonwealth has appointed a Supervising Scientist who has overall responsibility to ensure the protection and restoration of the environment of the Alligator Rivers region from the effects of mining.

TRAVEL AND TOURISM

Overseas Travel

Statistics about travellers to and from Australia are classified in the first instance by the actual or intended length of stay in Australia or abroad; this classification distinguishes between long-term and short-term movement.

Statistics of permanent and long-term movement are shown in Chapter 6, Demography.

Statistics of short-term arrivals and departures which are in the nature of travel statistics are given below.

Short-term movement: defined as comprising visitor arrivals and Australian resident departures where the intended stay in Australia or abroad is for a period of less than twelve months, together with departures of visitors and returns of Australian residents who have stayed in Australia or abroad for less than twelve months.

Short-term movement excludes persons who arrive in and depart from Australia on the same ship's voyage or on the same flight (variously called 'direct transit' or 'through' passengers), or who change flights without leaving the airport's transit area; passengers on pleasure cruises commencing and finishing in Australia; and all crew. However, it includes persons who pass through the customs barrier and declare the purpose of their visit to Australia to be 'in transit'. Short-term visitors are more numerous than long-term visitors and have come to be regarded as 'tourists' by many users of the statistics.

SUMMARY OF SHORT-TERM TRAVELLER STATISTICS

	Overseas visitors		*Australian residents*	
	Arrivals in Australia	*Departures from Australia*	*Departures from Australia*	*Arrivals in Australia*
Annual average—				
1971–75	475,900	479,000	647,600	631,400
1976–80	684,700	655,400	1,077,300	1,062,100
1981–85	998,600	966,600	1,337,600	1,306,000
Year—				
1982	954,700	921,500	1,286,900	1,259,600
1983	943,900	928,900	1,253,000	1,219,700
1984	1,015,100	985,800	1,418,600	1,374,700
1985	1,142,600	1,096,500	1,512,000	1,494,700
1986	1,429,400	1,363,800	1,539,600	1,513,200
1987	1,784,900	1,701,200	1,622,300	1,586,300

In addition to the basic classification of travellers shown above, certain other characteristics are ascertained. These are: sex, age, marital status, country of citizenship, country of birth, intended or actual length of stay, purpose of journey, mode of transport, country of residence or where most time was or will be spent, country of embarkation or disembarkation, State of residence or where most time was or will be spent, and State or country of embarkation or disembarkation.

The categories shown in the previous table are cross-classified by various characteristics listed above and resulting statistics are shown in considerable detail in quarterly and annual publications. Certain unpublished information is available on request. Selected traveller statistics are shown in the following tables.

Short-term travel is subject to marked seasonal variation, December being the peak month for the arrival of overseas visitors and the departure of Australian residents.

SHORT-TERM MOVEMENT: ARRIVALS AND DEPARTURES OF OVERSEAS VISITORS AND AUSTRALIAN RESIDENTS BY MONTH OF ARRIVAL OR DEPARTURE, AUSTRALIA, 1987
(persons)

	Overseas visitors		*Australian residents*	
Month	*Arriving*	*Departing*	*Departing*	*Returning*
January	139,700	169,100	106,700	186,700
February	147,800	151,600	85,500	110,100
March	145,200	149,200	132,500	102,400
April	132,700	135,700	133,700	111,300
May	120,700	137,600	135,600	110,700
June	116,500	108,600	149,400	107,900
July	142,000	119,900	157,700	156,500
August	140,400	149,900	144,500	149,100
September	128,000	125,900	165,400	156,800
October	165,700	139,700	122,700	183,800
November	183,100	166,500	113,700	122,600
December	222,800	147,500	175,000	88,500
Total	**1,784,900**	**1,701,200**	**1,622,300**	**1,586,300**
Sea travellers as a percentage of total	0.64	0.65	0.28	0.23

SHORT-TERM MOVEMENT—DEPARTURES OF AUSTRALIAN RESIDENTS: STATED PURPOSE OF JOURNEY AND INTENDED LENGTH OF STAY, 1987 (a)

(persons)

	Main purpose of journey—						
Intended length of stay	*Visiting relatives*	*Holiday, accompanying business traveller(b)*	*Convention*	*Business*	*Employment*	*Other and not stated*	*Total*
Under 1 week	8,200	28,600	4,100	52,100	3,100	7,200	103,400
1 week and under 2 weeks	27,100	258,900	16,000	59,600	2,000	14,400	377,900
2 weeks and under 3 weeks	34,400	213,400	7,500	41,400	1,400	11,700	309,700
3 weeks and under 1 month	35,600	90,100	3,100	21,800	1,200	6,900	158,700
1 month and under 2 months	99,100	145,500	4,300	29,300	2,600	11,100	292,000
2 months and under 3 months	52,300	64,900	900	9,000	1,800	6,300	135,300
3 months and under 6 months	49,900	57,000	400	7,200	3,200	7,500	125,000
6 months and under 9 months	15,300	19,700	*	3,300	2,700	4,600	45,700
9 months and under 12 months	8,400	17,900	*	2,700	6,000	6,700	41,700
Not definite, not stated	2,400	5,800	500	1,200	400	22,700	33,000
Total	**332,600**	**901,800**	**37,000**	**227,500**	**24,300**	**99,100**	**1,622,300**

(a) Asterisk (*) denotes that figures are subject to sampling variability too high for most purposes. *(b)* Includes student vacation.

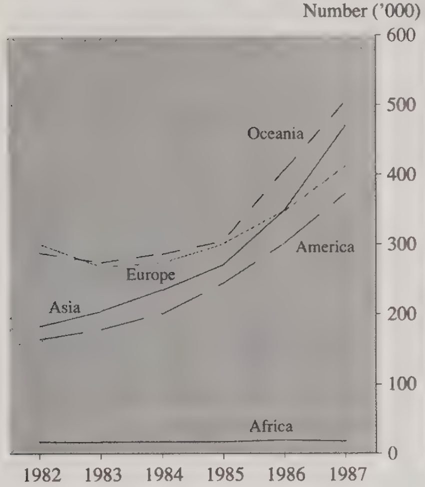
SHORT-TERM MOVEMENT—ARRIVALS OF OVERSEAS VISITORS: STATED PURPOSE OF JOURNEY AND INTENDED LENGTH OF STAY, 1987 (a)

(persons)

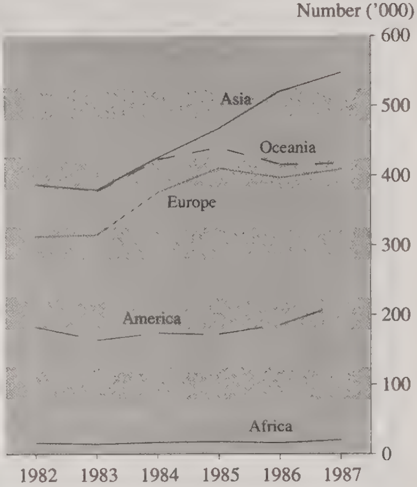
	Main purpose of journey—							
Intended length of stay	*In transit*	*Visiting relatives*	*Holiday accompanying business traveller*	*Convention*	*Business*	*Employment*	*Other and not stated*	*Total*
Under 1 week	100,700	19,400	228,300	5,900	70,000	1,400	15,400	441,000
1 week and under 2 weeks	100	38,700	277,900	13,400	61,700	800	17,500	410,100
2 weeks and under 3 weeks	*	53,600	162,900	7,200	27,800	800	13,300	265,600
3 weeks and under 1 month	*	45,500	75,900	2,100	7,400	400	6,600	138,000
1 month and under 2 months	*	98,600	99,000	1,900	14,000	700	10,600	224,900
2 months and under 3 months	*	40,000	33,100	300	4,600	1,200	6,600	85,800
3 months and under 6 months	*	38,200	34,400	*	5,000	3,300	12,400	93,400
6 months and under 9 months	*	29,300	33,400	*	2,000	5,100	8,600	78,600
9 months and under 12 months	*	5,200	9,200	*	1,900	7,200	13,200	36,800
Not definite, not stated	*	1,700	2,900	300	900	300	4,600	10,700
Total	**100,900**	**370,200**	**957,100**	**31,100**	**195,300**	**21,300**	**108,900**	**1,784,900**

(a) Asterisk (*) denotes that figures are subject to sampling variability too high for most practical purposes.

VISITOR ARRIVALS, SHORT TERM, BY USUAL RESIDENCE



RESIDENT DEPARTURES, SHORT TERM, BY REGION OF INTENDED STAY



In 1987 the majority of Australian residents departing for short-term visits abroad intended to stay for under one month, with 49 per cent intending to stay for under 3 weeks. The majority of short-term visitor arrivals to Australia intended to stay under three weeks, with 48 per cent intending to stay under 2 weeks.

Statistics for Australian residents refer to their total time away from Australia; for overseas visitors they refer only to the Australian portions of their trips.

In the case of both Australian residents departing and overseas visitors arriving, the most common reason for visit was 'holiday', followed by 'visiting relatives' and 'business' as the second and third most common reasons.

SHORT-TERM MOVEMENT: ARRIVALS OF OVERSEAS VISITORS AND DEPARTURES OF AUSTRALIAN RESIDENTS BY COUNTRY OF RESIDENCE/INTENDED STAY AND INTENDED LENGTH OF STAY, AUSTRALIA, 1987

	Arrivals of overseas visitors—intended length of stay					*Departures of Australian residents—intended length of stay*			
Country of residence (visitors) and country of intended stay (residents)	*Under 1 week*	*1 week and under 1 month*	*1 month and under 3 months*	*3 months and under 12 months*	*Total (a)*	*Under 1 month*	*1 month and under 3 months*	*3 months and under 12 months*	*Total (a)*
Africa—									
South Africa	1,600	2,700	3,800	1,500	9,600	2,500	3,900	1,300	7,700
Other	1,400	2,300	2,600	1,600	7,900	4,500	5,900	2,300	12,900
Total, Africa	*3,000*	*5,000*	*6,400*	*3,000*	*17,500*	*7,000*	*9,800*	*3,600*	*20,600*
America—									
Canada	7,400	23,800	14,000	7,400	52,700	6,100	9,500	4,600	20,400
United States	81,200	172,400	38,500	16,100	309,000	102,400	52,300	17,500	174,100
Other	2,500	4,200	2,200	2,200	11,300	7,300	8,200	4,700	20,400
Total, America	*91,100*	*200,400*	*54,700*	*25,700*	*373,100*	*115,900*	*70,000*	*26,800*	*215,000*
Asia—									
Hong Kong	7,100	25,100	6,800	3,400	42,700	82,900	13,300	5,800	103,300
India	1,400	2,400	1,800	1,700	7,400	7,200	8,600	4,000	20,000
Indonesia	4,900	8,900	4,100	3,400	21,500	105,200	8,200	2,800	117,400
Japan	106,800	93,700	6,100	8,200	215,600	18,800	4,100	2,200	25,600
Malaysia	10,100	20,800	8,800	7,200	47,100	31,800	11,100	4,000	47,200
Philippines	2,800	3,900	2,300	2,900	12,200	19,800	10,800	2,300	33,500
Singapore	15,500	31,000	7,100	3,000	57,000	72,500	6,800	2,700	83,700
Thailand	2,900	4,600	1,700	1,800	11,200	40,500	5,900	1,700	48,800
Other	14,900	18,900	9,000	13,200	56,400	31,300	19,900	16,200	67,900
Total, Asia (b)	*166,400*	*209,300*	*47,800*	*44,900*	*470,900*	*410,000*	*88,900*	*41,700*	*547,400*
Europe—									
France	4,400	6,300	4,200	2,200	17,100	4,100	8,400	3,300	15,800
Germany *(c)*	8,300	15,800	20,800	8,100	53,300	6,900	13,900	5,100	26,100
Greece	800	1,100	2,000	3,100	7,100	3,500	13,000	16,900	33,900
Ireland *(d)*	400	1,700	3,200	4,400	9,800	1,100	4,300	1,200	6,700
Italy	2,700	6,200	5,900	4,300	19,300	5,100	20,300	14,400	40,100
Netherlands	2,000	4,400	7,600	3,300	17,300	2,300	7,700	3,800	14,100
Switzerland	3,800	6,100	7,100	4,300	21,300	2,100	3,800	1,500	7,400
United Kingdom	19,800	60,200	71,800	46,500	198,900	36,300	115,200	53,900	207,400
Yugoslavia	500	600	1,500	3,700	6,300	1,000	7,100	9,300	17,600
Other	7,300	19,900	15,800	18,000	61,400	5,900	20,000	12,800	39,100
Total, Europe	*50,000*	*122,200*	*139,800*	*97,700*	*411,900*	*68,300*	*213,500*	*122,200*	*408,200*
Oceania—									
Fiji	3,700	3,800	4,700	4,300	16,500	56,500	2,400	1,100	60,500
New Caledonia	3,400	8,500	1,700	900	14,400	10,100	400	200	10,800
New Zealand	104,800	247,200	46,200	27,200	427,300	225,600	32,300	9,000	275,300
Papua New Guinea	13,000	11,400	6,100	2,200	32,800	15,900	5,700	5,500	27,500
Other	4,900	4,700	2,800	2,200	14,700	37,800	3,100	1,700	43,200
Total, Oceania	*129,800*	*275,600*	*61,300*	*36,700*	*505,800*	*346,000*	*43,900*	*17,600*	*417,400*
Other	*700*	*1,200*	*700*	*600*	*5,700*	*2,500*	*1,200*	*400*	*13,700*
Total	**441,100**	**813,700**	**310,700**	**208,700**	**1,784,900**	**949,700**	**427,300**	**212,400**	**1,622,300**

(a) The difference between the sum of the components and the total comprises 'not definite, not stated, etc.' *(b)* Asia includes countries which are frequently regarded as 'Middle East' countries, for example Iraq, Lebanon, Syria, etc. This inclusion is based on United Nations' classification of world regions. *(c)* Comprises the German Democratic Republic and the Federal Republic of Germany. *(d)* Includes Republic of Ireland and Ireland, undefined.

Survey of International Visitors—IVS

Surveys of the travel pattern and attitudes of international visitors to Australia have been conducted on behalf of the Australian Tourist Commission for a number of years (annually between 1983 and 1986). No survey was conducted for 1987 but it has been reintroduced for 1988, under the administration of the Bureau of Tourism Research.

Details contained in the survey include the arrival statistics, profile, itinerary, trip satisfaction and expenditure of short-term visitors to Australia (defined as foreign residents staying in Australia for a period of less than twelve months).

Domestic Travel

Information about domestic travel patterns of residents within Australia in 1986–87 was collected in the Domestic Tourism Monitor, commissioned by the Australian Standing Committee on Tourism and conducted by McNair Anderson. The survey results show that the main purposes of trips were holiday or pleasure (42 per cent), visiting friends and relatives (29 per cent), and conference, seminar, business (15 per cent). The main mode of transport used was private vehicle (76 per cent). The mean length of a trip by domestic tourists was 4.6 nights in 1986–87.

The following tables contain data obtained from the survey.

SUMMARY OF PERSON TRIPS AND NIGHTS AWAY, 1986–87

State of origin	*Estimated population year ending June 1987 (a)*	*Person trips*	*Person trips per person*	*Nights away by person*	*Nights away per person*	*Nights away per person trip*
	'000	'000		'000		
New South Wales	4,357.7	14,732	3.4	70,557	16.2	4.8
Victoria	3,280.4	10,850	3.3	50,309	15.3	4.6
Queensland	2,045.3	9,015	4.4	42,967	21.0	4.8
South Australia	1,097.3	3,947	3.6	17,302	15.8	4.4
Western Australia	1,146.7	3,843	3.4	19,156	16.7	4.9
Tasmania	341.8	972	2.8	4,352	12.7	4.5
Northern Territory	111.7	124	1.1	1,179	10.6	9.6
Australian Capital Territory	199.6	1,347	6.7	5,940	29.8	4.4
Total	**12,580.5**	**44,830**	**3.6**	**211,762**	**16.8**	**4.7**

(a) For persons aged 15 years and over.
Source: McNair Anderson, Domestic Tourism Monitor 1986–87

NUMBER OF NIGHTS SPENT IN STATE OF MAIN DESTINATION
BY MAIN PURPOSE OF TRIP, 1986–87
('000 nights)

	Main purpose of trip				
State of main destination	*All business*	*Pleasure/ Holiday*	*Visiting friends/ relatives*	*Other*	*Total*
New South Wales	7,106	35,919	18,917	8,805	70,747
Victoria	3,851	19,272	10,368	4,275	37,766
Queensland	6,815	28,835	11,628	6,163	53,441
South Australia	2,071	8,208	4,226	2,350	16,855
Western Australia	3,428	9,431	4,010	3,179	20,048
Tasmania	755	3,233	1,252	609	5,849
Northern Territory	891	1,856	418	587	3,752
Australian Capital Territory	650	958	1,286	379	3,273
Not stated	—	—	—	32	32
Total	**25,568**	**107,711**	**52,103**	**26,380**	**211,762**

Source: McNair Anderson, Domestic Tourism Monitor, 1986–87

Tourism

As a country, Australia offers domestic and international travellers a wide variety of tourist attractions. Its temperate climate and natural features of tropical forests, mountain ranges, pastoral regions and beaches provide a sharp contrast to the isolated outback, desert regions and attractions of an historical nature. Its major cities offer cultural and recreational pursuits and modern accommodation and convention and meeting facilities.

Australia is seen increasingly as an exciting but safe tourist destination in an environment of economic, political and social stability among a warm, friendly and hospitable people.

Economic and social importance

Tourism in Australia is now recognised as an industry and an area of government policy concern in its own right.

The Bureau of Industry Economics Report (BIE 1984) revealed that tourism is of major significance to the Australian economy. It is now estimated that tourism accounts for 6.0 per cent of Australia's Gross Domestic Product (GDP) and is responsible for employing 5.2 per cent of the workforce (equivalent to the textiles, clothing, footwear and motor vehicle industries combined). In 1981–82, the gross expenditure by domestic and overseas travellers in Australia was estimated to total almost $12,700 million. Estimates by the Department of the Arts, Sport, the Environment, Tourism and Territories put the 1987–88 total tourism expenditure at $25,500 million, with the level of direct and indirect employment created by this expenditure being estimated at 430,000.

The tourism industry is likely to undergo further expansion in the future, because of factors which include increasing general levels of affluence, increasing leisure time arising from shorter working hours and early retirement, saturation of demand for consumer durables, and improvements in the quality of facilities and services available to travellers.

In the context of these developments, both the Commonwealth and State Governments have become increasingly aware of the importance of tourism as an instrument of government policy and their respective roles in this field have expanded accordingly. Governments have in particular recognised the potential of tourism to stimulate economic growth and generate employment opportunities.

Allocation of tourism responsibilities within the public sector

In broad terms the Commonwealth Government is responsible for international aspects of tourism development and the formulation and implementation of relevant national policies.

The State and Territory governments, in conjunction with local government, bear responsibility for the provision of public infrastructure and facilities and other more specific, localised services and regulations. Other responsibilities with broad implications or significance are shared between Federal, State and Territory Governments.

Commonwealth activity

The Department of the Arts, Sport, the Environment, Tourism and Territories has been involved in a range of policy, administrative and consultative activities designed to encourage the efficient development of tourism in Australia in cooperation with the industry and with Commonwealth and State and Territory government departments.

Major functions of the Department include:

- formulating proposals, transmitting advice to the Minister on industry issues, administering the Australian Tourist Commission Act, conducting research into the tourism and travel industries, providing secretarial support to a number of consultative councils and committees, and providing liaison with international tourism organisations.

Specific mechanisms exist to achieve these objectives through consultation and liaison. These include the following:

- The *Tourist Ministers' Council* (TMC), which was established in 1959 and comprises the Commonwealth, State and Territory ministers responsible for tourism.
- The *Australian Standing Committee on Tourism* (ASCOT), which comprises representation from the Department, the Australian Tourist Commission and the State and Territory Directors of Tourism or their equivalent.
- The *Tourism Research Committee* (TRC), which undertakes research as directed by ASCOT, comprises research officers from the Department, the Bureau of Tourism Research, the Australian Tourist Commission and the State and Territory authorities responsible for tourism.
- The *Tourism Advisory Council* (TAC), which is chaired by the Minister for the Arts, Sport, the Environment, Tourism and Territories and includes senior representatives from the tourism industry and trade unions; and
- The *National Tourism Industry Training Committee Ltd* (NTITC), a tripartite body of representatives from industry, union and government, concerned with promoting, developing and coordinating training in tourism.

The Department is also responsible for Australia's bilateral and multilateral tourism relations and contributes to the development of international tourism through Australia's membership of the following:

- The *World Tourism Organization* (WTO), an intergovernmental technical body which examines issues affecting international tourism development with particular attention given to the interest of developing countries. WTO also acts as an executing agency for tourism projects funded by the United Nations Development Program (UNDP). Australia has been a full member of WTO since 1979 and recently (1983–87) chaired WTO's Regional Commission for East Asia and the Pacific.
- The *Tourism Committee of the Organisation for Economic Co-operation and Development* (OECD). The Committee's activities focus primarily on the concerns of developed economies including Australian's major tourism markets. Recent studies have looked at transport, employment, accommodation, investment and profitability of tourism enterprises in light of changing economic conditions.
- *The Economic and Social Commission for Asia and the Pacific* (ESCAP), a regional commission of the UN Economic and Social Council concerned with economic and social development (including tourism development) in member countries.

Australian Tourist Commission

The Australian Tourist Commission (ATC) was established in 1967. Following a wide ranging review, the ATC was restructured in 1987 and a new Act, the *Australian Tourist Commission Act 1987*, was passed by Parliament. The ATC is a statutory authority. Its role is to increase the number of visitors to Australia, to maximise the benefits to Australia from overseas and to ensure that Australia is protected from adverse environmental and social impacts of international tourism. The ATC had a staff of 90 world wide and a budget allocation of $35.5 million in 1987–88.

The Commission engages in a wide variety of marketing activities including consumer and trade advertising, industry seminars and familiarisation visits for travel agents, journalists and photographers, and market research. These activities are carried out in cooperation with the States and the Australian and overseas travel industries. Advertising designed to promote Australia as a friendly, exciting but safe tourist destination, provides a marketing umbrella for States, Territories and industry, and is placed in various tourist source markets at times selected to gain maximum awareness of Australia as a travel destination. Overseas offices of the ATC are located in London, Frankfurt, Los Angeles, New York, Chicago, Toronto, Singapore, Tokyo, Osaka, Hong Kong and Auckland.

The Bureau of Tourism Research

The Bureau of Tourism Research was established in October 1987. The Bureau is jointly funded by the Commonwealth and State and Territory Governments and in this regard it represents an extension of the cooperative approach to tourism research which has developed at government level over recent years.

The role of the Bureau is to aid the tourism industry and government by providing statistical and analytical support which is necessary for effectively planned and balanced development to take place.

The corporate mission of the Bureau is to:

- provide a national focus for the collection, analysis and dissemination of tourism and related data.
- undertake research on priority issues, as determined by government policy development needs or by the strategic requirements of the industry and
- promote an understanding and awareness of the role of tourism research in the development of Australian tourism.

Tourism industry

The tourism industry incorporates a wide range of activities. These include, principally, the travel, accommodation, catering, hospitality, retail, and meetings and conventions as well as many other sectors of industry. The industry has been identified as a growth area, offering attractive opportunities for investment in tourism development projects and as a major employer of labour.

Tourism has a higher than average labour intensity at all skill levels. The industry also provides an attractive employment choice for those in decentralised regions and those who cannot, or prefer not to, work conventional hours.

As a way of heightening awareness of the Australian tourism product and to encourage excellence in the industry, an annual series of National Tourism Awards was inaugurated in September 1984.

Tourism Overseas Promotion Scheme—TOPS

The Government announced in the 1987–88 Budget that TOPS, which has provided government assistance to the tourism industry for promotional activities, would be terminated.

Vocational training

The Federal Government has accorded higher priority to the issue of training within the tourism and hospitality industry in recent years. Two major reports have been completed and action is in train to implement recommendations contained in the reports. A labour force survey is being undertaken to qualify the future needs of the industry for trained personnel and significant funding is being provided to expand capacity in TAFE and other educational establishments. Industry is also being encouraged to commit more resources to training.

Major tourism projects

Based on information provided by the State and Territory tourism authorities, the Department of the Arts, Sport, the Environment, Tourism and Territories has estimated that, at the end of March 1988, there were some $4,492 million of major tourism projects under construction and another $5,918 million of projects firmly committed to commence construction within eighteen months thereafter.

Commencements of tourist accommodation and resorts in the year ending March 1988 were valued at $900 million and it is estimated these projects will provide about 18,945 staff years of employment during construction and, when operational, require employment of around 6,770 permanent full and part-time staff.

Consumer protection

Overseas and domestic tourists are now being given greater consumer protection when dealing with travel agents following the introduction by several State and Territory governments of a licensing system for all travel agents, and the establishment of a National Compensation Fund. Under these arrangements compensation is available to consumers in participating States and Territories through the Fund, which has been established with contributions from travel agents. Licensing criteria cover financial performance, minimum experience/qualifications for managers and defined standards for premises.

Tourist accommodation

Services industries surveys

Data relating to accommodation enterprises has been collected as part of the 1986–87 surveys. Results will be published in *Hotels and Accommodation—Details of Operations, Australia* (8656.0).

Surveys of tourist accommodation establishments

Quarterly accommodation surveys were commenced in the September quarter 1975 and data published from these surveys include room occupancy and takings from accommodation.

The main purpose of the surveys of tourist accommodation establishments is to measure the utilisation of available tourist accommodation. For detailed statistics from the survey *see Tourist Accommodation, Australia* (8635.0).

Domestic tourism monitor

The 1986–87 Domestic Tourism Monitor, which covers travel by Australians, indicated that the main types of accommodation used were homes of friends or relatives (47 per cent), hotels or motels (20 per cent) and caravan parks or camping grounds (13 per cent). The following table classifies the main type of accommodation used by the main purpose of the trip.

TOURIST ACCOMMODATION (a)

		March quarter 1987	*June quarter 1987*	*September quarter 1987*	*December quarter 1987*	*March quarter 1988*
LICENSED HOTELS WITH FACILITIES *(b)*						
Establishments	Number	1,102	1,095	1,107	1,112	1,111
Guest rooms	"	41,424	41,912	42,779	44,108	44,238
Bed spaces	"	105,057	106,268	109,229	112,621	113,692
Room occupancy rates	%	56.8	52.2	55.9	56.1	55.6
Bed occupancy rates	%	36.2	31.8	34.9	34.9	34.5
Gross takings from accommodation	$'000	161,364	151,258	173,649	191,318	200,751
MOTELS, ETC *(b)*						
Establishments	Number	3,052	3,105	3,180	3,199	3,229
Guest rooms	"	80,033	81,452	83,329	83,992	85,386
Bed spaces	"	240,460	246,676	253,847	256,059	260,670
Room occupancy rates	%	57.6	54.2	58.5	55.9	57.0
Bed occupancy rates	%	36.2	32.3	35.9	34.0	35.5
Gross takings from accommodation	$'000	199,424	193,920	224,446	223,886	239,591

For footnotes *see* end of table.

TOURIST ACCOMMODATION (a) — *continued*

		March quarter 1987	*June quarter 1987*	*September quarter 1987*	*December quarter 1987*	*March quarter 1988*
		TOTAL				
Establishments	Number	4,154	4,200	4,287	4,311	4,340
Guest rooms	"	121,457	123,364	126,108	128,100	129,624
Bed spaces	"	345,517	352,944	363,076	368,680	374,362
Room occupancy rates	%	57.4	53.5	57.4	56.0	56.5
Bed occupancy rates	%	36.2	32.2	35.5	34.3	35.2
Gross takings from accommodation	$'000	360,787	345,178	398,095	415,203	440,342
		CARAVAN PARKS *(c)*				
Establishments	Number	1,930	1,891	1,844	1,850	1,844
Powered sites	"	145,367	142,698	139,302	140,292	140,403
Unpowered sites	"	61,875	60,878	59,517	59,470	59,711
Cabins, flats etc.	"	5,384	5,432	5,418	5,566	5,810
Total capacity	"	212,626	208,998	204,237	205,328	205,924
Site occupancy rates	%	30.9	23.0	22.7	24.4	30.9
Gross takings from accommodation	$'000	51,066	38,202	39,050	45,141	54,411

(a) For the purpose of this survey, a tourist accommodation establishment is defined as an establishment which predominantly provides short-term accommodation (i.e. for periods of less than two months) available to the general public. *(b)* For definitions *see Tourist Accommodation, Australia* (8635.0). *(c)* Excludes long-term caravan parks. For definitions *see Tourist Accommodation, Australia* (8635.0)

NUMBER OF PERSON TRIPS BY MAIN TYPE OF ACCOMMODATION AND MAIN PURPOSE OF TRIP, 1986–87
('000 person trips)

	Main purpose of trip				
Main type of accommodation	*All business*	*Pleasure/ holiday*	*Visiting friends/ relatives*	*Other*	*Total*
Hotel/motel with facilities	3,109	3,579	639	883	8,210
Hotel/motel without facilities	388	343	48	142	921
Friends'/ relatives' house	1,459	5,992	11,161	2,497	21,109
Caravan/tent/cabin/camping	272	4,653	330	687	5,942
Rented house/flat	175	1,336	199	140	1,850
Own holiday home/flat	148	1,379	111	294	1,932
Guest house/private hotel	151	350	50	76	627
Other/not stated	1,087	1,181	472	1,499	4,239
Total	**6,789**	**18,813**	**13,010**	**6,218**	**44,830**

Source: Domestic Tourism Monitor, 1986–87

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NATIONAL FILM AND SOUND ARCHIVE

(This special article has been contributed by R.W. Fergie)

Historical significance of moving images and recorded sound

Screen and sound recordings are media which can entertain, inform and influence us.

As entertainment media, moving images and recorded sound reflect the popular culture of their time. Now, through radio and television transmission, they have become the principal means of informing and influencing the community.

> Their news component creates a visual and oral record of history as it is happening, unthinkable in former ages. They have proved to be powerful and insidious shapers of public attitudes, at once beneficial and dangerous.[1]

As cultural artifacts, recorded sound and moving images represent a rich historical resource which are as valuable as the record preserved in the written word and artifacts of libraries, museums, galleries, archives and historical sites. Properly preserved, they can bring the past to life in a singularly direct and graphic manner.

This revolution in the recording and transmission of information has happened in the last 50 years or so and it has taken some decades for the archival institutions of the world to recognise the need to collect and preserve screen and sound recordings. By then they were being overrun by the rapidly growing but impermanent output. Even now, the effort to preserve and catalogue falls far short of the protection, long taken for granted, of the output of literature, works of art and other historical material.

An awakening cultural perception in Australia

In Australia, archiving of film and sound material was first taken up tentatively around 1936 by the Commonwealth National Library in Canberra. This continued as the National Film Archive and Sound Recording Section of the National Library of Australia.

In April 1984, the Government grasped the responsibility much more firmly when it established the National Film and Sound Archive in Canberra as an autonomous office within the then Department of Home Affairs and Environment, absorbing the National Library's film and sound sections. Concurrently, the National Film and Sound Archive Advisory Committee was appointed to plan for the future of the Archive.

Advisory Committee Report

The 1985 Report of the Advisory Committee, *Time in Our Hands* still provides the most definitive statement of the problems and possibilities.

The Report's recommendations envisaged the Archive becoming a major cultural institution, preserving and celebrating Australia's screen and sound heritage. Basic requirements identified were building extension and reequipment to facilitate preservation; cataloguing and presentation operations on a much larger scale; a 5 year development plan for funding and staffing; the creation of a national record of the production of sound and screen media; legislative measures to establish the Archive as an autonomous statutory authority; a charter and policies which define the role, nature and philosophies; and the establishment of an Archive office in each State.

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1) *Report of the National Film and Sound Archive Advisory Committee*, Department of Arts, Heritage and Environment, published November 1985 as *Time in our Hands*.

Although no comprehensive response to the Report has been made by the Government, development of the film and sound archive system since then has been in general conformity with the Report's recommendations (though not its timetable) within the constraints of a limited budget. At this point, the Archive and its Director remain administratively attached to the Department of the Arts, Sport, the Environment, Tourism and Territories and are assisted by an Interim Advisory Council appointed by the Minister in June 1987 pending establishment of a Governing Council; it has yet to extend its national office in the former Institute of Anatomy building in Canberra but it has set up offices in Sydney and Melbourne, with an agency in Perth. Its priorities, as detailed in a draft Corporate Plan, focus currently on preservation, acquisition, collection management and the need for public access—and on overcoming immense inherited backlogs in each of these areas.

Vanishing heritage

The heart of the problem of preserving history in sound and film is that much of the prolific output for screen and broadcasting is transitory and of little continuing interest to the producers. Even more so than the printed page, its preservation is dependent on institutional arrangements by government. These will involve intervention at the point at which sound and images are recorded and then special arrangements to ensure the preservation and accessibility of selected material. Television and radio programs, for example, may be wiped soon after broadcasting and even if recordings and films are kept they soon begin to decay. For example, much of the cellulose nitrate film used before 1952 disintegrated or was destroyed (and that which still exists is becoming unstable and is in urgent need of being copied on to more durable film). A parallel problem exists with many of the early sound recordings.

Implications for archiving

The level of effort required to overcome this archiving backlog is currently beyond the resources which governments so far have been ready to commit.

And as the archivists and the public respond to the need to acquire and preserve sound and film material, the problem of cataloguing and providing access is compounded. At present, the need to acquire and preserve is the more imperative but, since the whole object of preserving sound and screen material is to give access to it, the necessarily labour intensive cataloguing must follow. Cataloguing of the Archive's own rapidly growing collections and the establishment of common cataloguing and other technical standards for other repositories needs urgent attention.

Scope of the Archives

The heritage which the Archive is charged to preserve was defined by the Advisory Committee to include, but not to be limited to, the following—

(a) Recorded sound, film, television or other productions comprising moving images and/or recorded sounds created or released within Australia, or by Australians, or with relevance to Australians, whether or not primarily intended for public release.

(b) Objects, materials, works and intangibles relating to the moving image and recorded sound media whether seen from a technical, industrial, cultural, historical or other viewpoint; this shall include material relating to the Australian film, television, broadcasting and sound recording industries and fields such as literature, scripts, stills, posters, advertising material, manuscript material and artefacts such as technical equipment and costumes. It also includes such concepts as the perpetuation of obsolescent skills and environments associated with the presentation of these media.

This subject matter is to be encompassed in all of its manifestations, whether as art, communication, historical phenomenon, or otherwise.

The recommended charter, integrating the functions of museum, library, archives and gallery for such a comprehensive range of media is a daunting one. Coherent philosophy, policies, goals and management systems, relating to it have had to be developed 'on the run' in the course of servicing day-to-day operational needs and 'from the ground up' (overseas counterparts have similar functions but usually in respect of one or other of film, television, radio or sound recording, rather than the combination).

Functions

With whatever help it can enlist from the screen and sound industries, it is ultimately the Archive's responsibility to identify, preserve and provide access to this Australian moving image and recorded sound heritage. This means that, in addition to gathering up existing material of historical worth, it must monitor Australian sound and screen production as it occurs and acquire, catalogue and preserve it. To enlist support and interest and to make the material more fully accessible to the public it needs to improve public perception and understanding of the relevance of the screen and sound heritage to our society and national character. There is thus a continuing need to engage in creative research, education and entrepreneurial activity.

Facilities

A major building extension and refurbishment program for the Canberra headquarters (a fine, well located but overcrowded heritage building) has been planned to provide for the necessary staff and technical and presentational facilities, including expanded exhibition areas, a public theatre and other visitor facilities. Meanwhile prefabricated buildings are being used on the site. Storage facilities are at a number of less-than-adequate and scattered buildings in Canberra and Sydney but are being consolidated at the Archive's new repository in the Canberra industrial area of Mitchell.

The necessary contact with both producers and users of archival material in a physically large country like Australia calls for convenient facilities in all States, forming part of an integrated national system. In addition to fixed repository, display and access facilities, there is a need for a roving presence by way of travelling exhibitions—this has naturally been a particular emphasis in the 1988 Bicentennial Year and will be continued. There has also been an effort to take elements of the collection into every home—'The Australian Image', a television series about the Archive and its mission, has been shown nationally.

Institutional arrangements

While national and State libraries enjoy the benefit of mandatory deposits of printed publications for preservation purposes, there is no comparable arrangement in Australia for image and sound recordings—the National Film and Sound Archive must rely on voluntary cooperation (which is usually readily given).

In addition to Government funds, the National Film and Sound Archive actively seeks corporate sponsorship and voluntary support of all kinds. A notable example was the gift of Australia's major cinema newsreel libraries to the Archive by their owners (News Corporation and The Greater Union Group) together with some $4 million to preserve them through a 5 year project dubbed *Operation Newsreel*.

Special programs

A number of other special programs have been conducted with generous support for the community—the *Last Film Search* has saved for preservation much of what remains of disintegrating nitrate motion picture film. With the help of the Australian Bicentenary Authority and private sponsors the *Slice of Life* project aims to save the best radio and television coverage of Australia's Bicentenary year and involves some 30 television stations or networks and 60 radio stations.

Future directions

The Archive's Corporate Plan to cover the next 5 years is still in draft and incomplete in respect of detailing its action plans. Given present resource limitations in relation to the challenge of its charter, it focuses on the key short term issues in order to identify and set priorities which may be achievable. It considers that the thrust of the report *Time in our Hands* is still valid and urgent but recognises the Archive's dependence on a growing cultural perception of the need to preserve the moving image and recorded sound heritage of Australia on a basis comparable to that accorded to long established sister institutions.

NATIONAL MUSEUM OF AUSTRALIA

THE NATIONAL MUSEUM OF AUSTRALIA

(*This special article has been contributed by staff from the National Museum of Australia*)

The vision of a National Museum of Australia emerged from the work of the Pigott Committee in 1975 and has since captured the imagination of a wide cross-section of Australians. The vision is not of a conventional museum—but of a place that will reflect what it means to be Australian, emphasizing the environments and cultures which have shaped us as a people.

The Museum will consist of a series of pavilions, in harmony with the landscape, and linked by covered walkways. Visitors will enjoy the diversity of the experiences offered—from indoor dioramas to operating machinery, from outdoor displays to live performances. They will be challenged by high-tech displays with which they can interact; they will participate in 'living history' with museum staff and volunteers.

Visitors to the Museum will learn how the continent was formed and how its particular flora and fauna evolved. The displays will illustrate the history and culture of Australia's original inhabitants—the Aborigines and Torres Strait Islanders—and show the changes that have occurred since 1788. They will also show the nature of the Australian environment and how it has been affected by human occupation.

Throughout the displays the relationship between these three major themes will be explored and revealed.

This is Australia

Visitors to the Museum will begin their visit in a gallery called 'This is Australia' which will survey what the Museum has to offer. It will contain highlights of the National Historical Collection—objects of exceptional interest or significance in our nation's history.

The span of history will be encompassed—from the great marine dinosaur Kronosaurus, to the preserved heart of Australia's most famous race horse Phar Lap; from Australia II's original Boxing Kangaroo battle flag to the Peace Bus of the 1980s peace movement.

Visitors will be able to enjoy views over the lake as they move along a covered walkway to the other pavilions and facilities. An historic tramway will link this area with the distant parts of the site.

From this introductory pavilion, visitors will have a choice of possible routes through outdoor displays and a series of galleries containing thematic exhibitions.

The Australian People

The Gallery of the Australian People will demonstrate the make-up of the Australian community of today. It will deal with the economic, social and political forces which brought migrants to Australia, and show how they responded to their new cultural and physical environment. The exhibitions will explore the possible origins of Australia's Aboriginals, and recount the story of the First Fleet. Historical figures will be identified including those whose efforts contributed to the political growth of the developing nation. Looking to the future, demographic projections will generate images of Australian society in the years ahead.

The Gallery of Aboriginal Australia

The story of Australia's Aboriginal and Torres Strait Islander people, from their origins in the distant past to the present day, will be told in the Gallery of Aboriginal Australia.

It will focus on their cultural diversity, their relationship to the land and its plants and animals, and their interaction with settlers after 1788. The range of lifestyles of

Aboriginal people in today's Australia will be revealed, while a replica of a Torres Strait village will provide the backdrop to displays of the life and culture of these Island people.

Aboriginal inventiveness and achievements in art, literature and environmental management will be presented in informative displays. Visitors will see the 'Embassy' tent as it stood before Parliament House in 1972, the focal point for the political aspirations of Aboriginal communities across Australia at the time.

Australians at home and work

This gallery will show that the Australian way of life has been built on the necessity for work, in the home and at the workplace. A reconstructed country printing shop will highlight the issues of workers' health and safety, and the often long and irregular hours of work in small businesses. The growth of the trade unions and their struggle for improved working conditions will be told in a series of innovative exhibitions.

The impact of technological change not only on the rural economy but also on the social and political fabric of country life will be explored in a working display of Australian shearing through the years.

Australian aspirations for home ownership, the growth of suburbia and the 'quarter acre block' will be examined and related to the changing structure of the Australian family and the often arduous and under-valued nature of women's work.

Museum of Oz

Children will love the Museum of Oz, designed to entertain and challenge young Australians as they learn about their country. Older Australians too will be able to test their knowledge with interactive displays, performance events and highly innovative displays.

For young visitors, the Museum of Oz will open up another world. They will enter a country town of the 1930s, shopping at a general store and trying the old-fashioned money-sling system. They will glimpse school life as it was in a one-room wooden school building with its old fashioned desks, slates and squeaking pencils. They will meet a stockman in his camp who will yarn to them about the bush environment. The Aboriginal custodians of western Arnhem Land history will tell the story of the Mimi Caves, and how the Mimi and the Aboriginal people lived together in the Dreaming.

Gallery of the Australian environment

Flat-bottomed boats will introduce the 'Millewa Journey', a voyage of discovery through time in a unique Australian environment. They will follow the history of the River Murray (known to Aboriginal people as Millewa) from the distant past when giant marsupials roamed the riverine plains, through the period of Aboriginal occupation prior to European settlement, and on to the period when the paddlesteamers made the river a vital link in the nation's economic growth.

Visitors will learn of the effect of European settlement on the fragile environment, and the problems that have resulted. Issues of soil conservation, irrigation, salinity and pests will be explored along with wildlife and forest conservation. Outside the gallery, kangaroos, wallabies, parakeets and other native species will roam freely in an attractive natural landscape. Nature trails will lead to the edge of the lake where a range of waterfowl can be seen.

Australians at play

The national preoccupation with sport will be illustrated in the Gallery of Australians at Play. There will be displays about Australians' involvement in a range of sports such as cricket, football, boxing, lawn bowls, tennis, netball, yachting, surfing and horse racing. A bar and refreshment room will be close by, and diversions such as wood-chopping, sheep dog trails and boomerang throwing competitions will be presented. Visitors will see how gambling has often been a significant part of Australian leisure time activity and will have the chance to take the kip and toss the pennies in a reconstructed two-up den.

Informal and individual forms of leisure, especially in the outdoors, will be features, as well as popular entertainments like the movies, the circus, the theatre, festivals and parades, home entertainments, music and crafts, not to forget the social barbecue by the backyard swimming pool.

Collections and notable acquisitions

Over almost fifty years a substantial collection of objects has been acquired as part of this major undertaking. Notable amongst these are the National Historical Collection formerly stored in the Institute of Anatomy and items of national significance such as the 12 metre yacht Australia II. In recent months the National Museum accepted the Wedgwood Bowl on behalf of the Australian people to commemorate the Bicentenary and to symbolise Wedgwood's historic links with Australia. The inside surface of the Bowl has a border of wattle and the coats of arms of each State, Territory and the Commonwealth in 24 carat gold. The words 'To commemorate the Bicentenary of Australia 1788–1988' encircle the base. A wave motif surrounds the words, symbolising Australia's ties with Britain and countries around the world. This gift has symbolic importance for all Australians in the motifs featured in its decoration, as well as the occasion of its presentation to the Museum.

PS Enterprise

From September 1988 a Murray River paddlesteamer will be operating as a working exhibit on Lake Burley Griffin. Constructed in 1878 this vessel has been carefully restored to working condition, as it was in 1910 when it was in use as a barge towing vessel. It will be interpreted to the public at major events. *Enterprise* will play a major part in the National Museum's Bicentennial activities. Purchased by the National Museum in 1984, *Enterprise* is an outstanding example of what was once a fleet of over 300 paddlesteamers that served the needs of the colonies of South Australia, Victoria and New South Wales. *Enterprise* is now the second-oldest paddlesteamer in Australia and, as one of the oldest steam vessels still afloat anywhere, is a vessel of world significance.

Exhibitions and the Yarramundi Visitor Centre

The Yarramundi Visitor Centre opened on the site for the National Museum in September 1986 and contains a theatrette where videos and films are screened, and exhibition area and plans and models illustrating the development of the major project. Since its opening the Visitor Centre has mounted two exhibitions incorporating the three major themes of the National Museum, the history of the Aboriginal people, the history of Australian people since 1788 and their interaction with the environment.

The first exhibition *On the Horizon* gave visitors a glimpse of the planning for this important national project. It also gave some idea of the scope of the Museum's collection and the way in which objects—both early and contemporary—can be used to help us understand the lives and the societies of the people who made and used them. Some of the exhibits displayed included a dugout canoe from Borroloola (NT), a Ferrier Wool Press, Aboriginal carvings and paintings and a 1950s Pinball Machine, which was very popular with children and nostalgic adults.

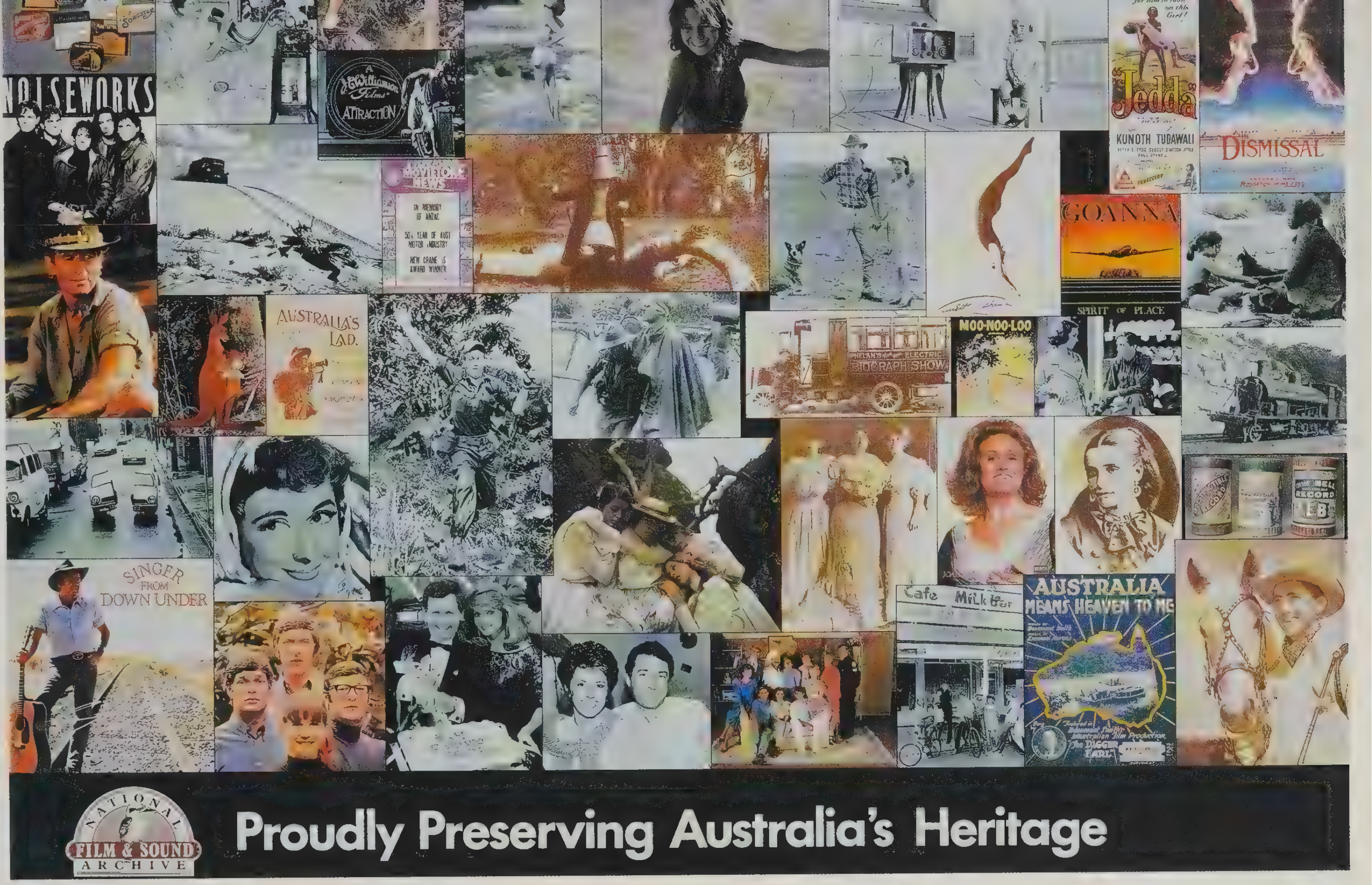
The second exhibition by the National Museum of Australia titled *Survival*, is intended to give visitors some insight into Australia's cultural diversity. Australia is an ancient continent populated for at least 50,000 years. Although the environment has always changed, and at times dramatically, the last 200 years have seen the greatest change. How have Aboriginal people survived? People from many other countries also have made Australia their home. How difficult has it been? How have they maintained and expressed their cultural and political traditions? And what of our native flora and fauna? How have they survived, and what part do they now play in the Australian landscape?

NATIONAL FILM & SOUND ARCHIVE

NATIONAL FILM & SOUND ARCHIVE

McCoy Circuit, Acton A.C.T 2001 A

88 Takes
When a boy from Alabama meets a girl from Gundagai
Jack O'Hagan
BERT BAILEY
DAD and DAVE
Composed and Designed by HERBERT BOOTH
"HIS MASTERS VOICE"
True to Life
RADIO and RADIOGRAMS
THE SYMBOL OF SUPREMACY
BERLEI
CINESOUND
The Voice of Australia
Produced by CINESOUND PRODUCTIONS LTD.
REVIEW
Gladys Moncrieff
a man called mo
LISTENER IN
RENÉE GEYER
EDISON RECORDS DANCING
For Tone For Time For Timeliness
RADIO PICTORIAL OF AUST. JAN. 1939
6d
POSSUM SONG
Arthur Greville Collins
Ethel Turner's LITTLE


NOISEWORKS
A J.C. Williamson Films Attraction
Jedda
Kunoth Tudawali
Dismissal
Movietone News
In memory of Anzac
50th year of Aust motor industry
New crane is award winner
Goanna
Spirit of Place
Australia's Lad
Moo-Noo-Loo
Electric Biograph Show
Cafe Milk Bar
Australia Means Heaven to Me
Singer from Down Under
National Film & Sound Archive
Proudly Preserving Australia's Heritage

1926 Crossley Landaulette

Ferrier's
Trade Mark
Lever
Woolpress
Humble & Sons
Makers
Geelong
1831

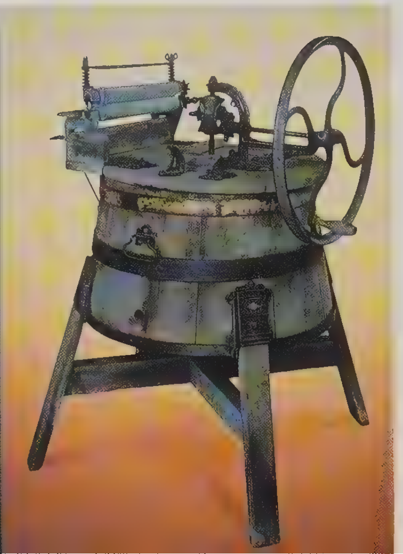
Ferrier's lever woolpress

THE NATIONAL MUSEUM OF AUSTRALIA

Spirit figure painted with Mortuary designs.

Child's dress advertising the Heidelberg Unemployed Bureau.

HEIDELBERG
LADIES
UNEMPLOYED
WELFARE
MEET
AT
THE
BARKLY
HALL
EVERY
THURSDAY
AT
2PM
ORCHE
OPEN
FOR

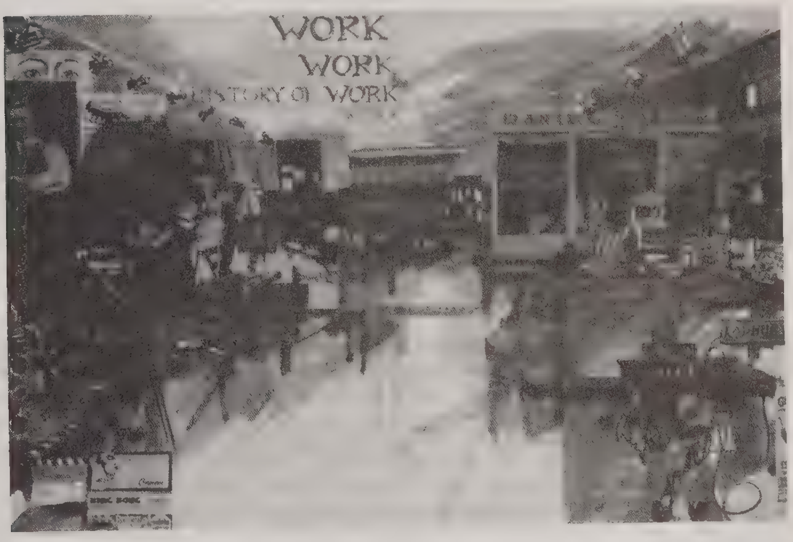


Austral Wringer and hand operated washing machine.

These issues are explored in a dramatic and engaging display which signals the innovative approach to be taken in larger exhibitions of the future.

Future of the major project

Consideration of construction of the Museum complex at the Yarramundi site has been deferred for five years with a view to its opening by 2001 as a fitting celebration of the centenary of Australia's federation. The Museum will be developing arrangements in the interim with State-based institutions to exhibit elements of the National Collection.



13

AGRICULTURAL INDUSTRIES

This chapter is divided into the following major parts: Introduction; Sources of statistics and definitions of units; Structural statistics (provides data on the legal arrangements, size and industry class of the business organisations operating within the agricultural sector); Value of agricultural commodities produced and index of values at constant prices; Apparent consumption of foodstuffs and nutrients; Land tenure and utilisation; Crop statistics; Livestock statistics; Livestock products; Agricultural improvements, employment, regulation of agricultural industries, and the agricultural research activities of the Commonwealth Scientific and Industrial Research Organization (CSIRO).

Introduction

The development of Australian agricultural industries has been determined by interacting factors such as profitable markets, the opening up of new land (including the development of transport facilities) and technical and scientific achievements. Subsistence farming, recurring gluts, low prices and losses to farmers were gradually overcome by the development of an export trade. Profitable overseas markets for merino wool and wheat, and the introduction of storage and refrigerated shipping for the dairying and meat industry, combined to make the agricultural sector Australia's main export earner. Until the late 1950s, agricultural products comprised more than 80 per cent of the value of Australia's exports. Since then, the proportion of Australia's exports from the agricultural sector has declined markedly.

However, this decline in importance has been due not to a decline in agricultural activity but rather to an increase in the quantity and values of the exports of the mining and manufacturing sectors. In fact, the agricultural sector experienced an increase in total output over that period. One interesting aspect of this increase in output is that it was accompanied by a large reduction in the size of the agricultural labour force, implying a large growth in productivity within the sector.

Sources of statistics and definitions of units

The major source of the statistics in this chapter is the Agricultural Census conducted at 31 March each year. A wide range of information is collected from agricultural establishments with agricultural activity covering the physical aspects of agriculture such as area and production of crops, fertilisers used, number of livestock disposed of, etc. In conjunction with the Census, certain supplementary collections are conducted in some States where this has proved expedient, e.g. where the harvesting of certain crops has not been completed by 31 March (apples, potatoes, etc.), special returns covering the crops concerned are collected after the completion of the harvest.

The ABS excludes from the Census those establishments which make only a small contribution to overall agricultural production. Thus the 1986–87 Census includes establishments with agricultural activity which had, or were expected to have, an estimated value of agricultural operations of $5,000 or more. In previous years, the value cut off was applied at the enterprise level—for 1981–82 the value was $2,500 and for earlier years, $1,500.

While these alterations have resulted in some changes in the counts of numbers of establishments appearing in publications, the effect on the statistics of production of major commodities is small. Statistics of minor commodities normally associated with small scale operations may be affected to a greater extent.

Details of the method used in the calculation of the estimated value of agricultural operations are contained in the publication *Agricultural Industries: Structure of Operating Units, Australia* (7102.0).

Integrated Register Information System—IRIS

Details of agricultural units for 1985–86 have been derived from IRIS. Details of the structure of economic units engaged in agriculture, in hierarchical order, are:

- **Enterprise** (the second level of economic unit). The enterprise is that unit comprising all operations in Australia of a single operating legal entity. (The term 'single legal entity' means a sole trader, partnership, company, trust, cooperative or estate in the private sector, or a department, local government authority or statutory authority in the government sector). For the agricultural sector, a 'multi-State enterprise' is an enterprise which belongs to an enterprise group which undertakes agricultural activities in more than one State.
- **Establishment** (the smallest economic unit). The establishment covers all operations carried out by one enterprise at a single physical location.

Other statistical collections

The ABS conducts a number of other collections to obtain agricultural statistics. These include collections from wool brokers and dealers, livestock slaughterers and other organisations involved in the marketing and selling of agricultural commodities.

For financial statistics from the Agricultural Finance Survey, conducted for 1986–87, *see Agricultural Industries Financial Statistics, Australia, 1986–87, Preliminary* (7508.0).

Structural Statistics

The following tables provide information relating to the structure of operating units during 1984–85. Although the definitions of the operating units have been provided above, the following terminology is also used:

- **Industry**. As set out in the *Australian Standard Industrial Classification (ASIC)* (1201.0 and 1202.0). These publications provide details of the methodology used in determining the industry class of an economic unit.
- **Estimated Value of Agricultural Operations (EVAO).** This is determined by valuing the physical crop and livestock information collected in the Agricultural Census.

A further explanation of this terminology and more detailed statistics are given in the publication *Agricultural Industries: Structure of Operating Units, Australia* (7102.0).

AGRICULTURAL ESTABLISHMENTS: INDUSTRY AND ESTIMATED VALUE OF AGRICULTURAL OPERATIONS: 1985–86

	Industry of establishment	Estimated value of agricultural operations ($'000)											
ASIC Code	Description	Less than 9	10–19	20–29	30–39	40–49	50–59	60–74	75–99	100–149	150–199	200 and over	Total
A	Agriculture, Forestry, Fishing and Hunting—												
01	Agriculture—												
0124	Poultry for meat	20	13	22	25	34	46	67	111	126	66	144	674
0125	Poultry for eggs	40	43	33	23	29	27	30	51	88	100	430	894
0134	Grapes	444	513	469	430	495	457	528	542	356	98	127	4,459
0135	Plantation fruit	167	216	268	226	193	126	153	199	196	94	117	1,955
0136	Orchard and other fruit	1,278	1,083	676	562	504	415	435	490	664	339	534	6,980
0143	Potatoes	37	61	87	101	72	108	136	179	273	179	323	1,556
0144	Vegetables (except potatoes)	563	621	439	355	263	197	265	304	439	242	641	4,329
0181	Cereal grains (incl. oilseeds n.e.c.)	742	906	813	791	776	778	1,240	1,885	2,612	1,614	3,313	15,470
0182	Sheep—cereal grains	294	762	1,005	1,312	1,422	1,614	2,310	3,685	5,108	2,827	4,103	24,442
0183	Meat cattle—cereal grains	309	459	440	361	308	281	380	423	550	286	510	4,307
0184	Sheep—meat cattle	1,064	1,301	1,048	930	801	654	813	1,028	1,134	551	879	10,203
0185	Sheep	3,266	3,159	2,417	2,119	1,756	1,595	1,956	2,343	2,597	1,234	1,497	23,939
0186	Meat cattle	11,596	7,688	3,869	2,254	1,588	1,037	1,128	1,126	1,188	585	1,170	33,229
0187	Milk cattle	428	730	1,147	1,761	2,430	2,421	2,928	2,960	2,159	627	392	17,983
0188	Pigs	239	244	187	192	156	132	143	235	318	163	378	2,387
0191	Sugar cane	42	134	288	492	706	745	913	1,036	920	334	266	5,876
0192	Peanuts	5	18	19	22	36	38	45	66	79	37	37	402
0193	Tobacco	—	3	5	10	26	45	73	150	173	47	27	559
0194	Cotton	—	2	2	2	5	4	2	13	21	30	388	469
0195	Nurseries	225	264	288	158	138	233	125	158	235	92	275	2,191
0196	Agriculture n.e.c.	3,019	1,552	798	533	328	258	209	252	203	96	164	7,412
	Total (ASIC code 01)	*23,778*	*19,772*	*14,320*	*12,659*	*12,066*	*11,211*	*13,879*	*17,236*	*19,439*	*9,641*	*15,715*	*169,716*
02	Services to agriculture	39	44	23	10	8	3	5	6	6	—	2	146
03	Forestry and logging	14	10	—	1	2	1	—	1	1	1	1	32
04	Fishing and hunting	4	3	2	1	1	—	1	—	—	—	—	12
	Total (ASIC Division A)	*23,835*	*19,829*	*14,345*	*12,671*	*12,077*	*11,215*	*13,885*	*17,243*	*19,446*	*9,642*	*15,718*	*169,906*
B	Mining	3	5	2	—	—	—	1	1	2	1	—	15
C	Manufacturing	38	32	24	23	10	7	6	12	12	1	26	191
D	Electricity, Gas and Water	—	—	—	—	1	—	—	—	1	—	1	3
E	Construction	83	49	25	17	7	6	5	6	8	2	—	208
F	Wholesale and Retail Trade	77	51	35	17	16	21	8	15	12	3	14	269
G	Transport and Storage	90	78	38	18	16	8	8	8	8	2	2	276
H	Communication		—	—	—	—		—	—	—	—	—	—
I	Finance, Property and Business Services	23	16	3	7	5	2	—	—	1	2	1	60
J	Public Administration and Defence	—	1	—	—	—	—	1	1	—	—	—	—
K	Community Services	21	10	10	13	6	11	15	14	14	13	37	164
L	Recreation, Personal and Other Services	37	21	9	4	—	7	—	4	2	1	—	85
	Total, all industries	**24,207**	**20,092**	**14,491**	**12,770**	**12,138**	**11,277**	**13,929**	**17,304**	**19,506**	**9,667**	**15,799**	**171,180**

NUMBER OF UNITS BY TYPE OF UNIT

Year/unit	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
1983–84—									
Agricultural establishments	52,704	45,560	33,948	19,289	16,584	5,586	253	101	174,025
Establishments with agricultural activity	53,011	45,984	34,167	19,479	16,750	5,664	255	102	175,412
Agricultural enterprises					—n.a.—				
Non-agricultural enterprises operating agricultural establishments					—n.a.—				
1984–85—									
Agricultural establishments	51,786	45,032	33,614	18,915	16,341	5,384	265	104	171,441
Establishments with agricultural activity	52,116	45,452	33,836	19,191	16,626	5,470	265	105	173,061
Agricultural enterprises	50,209	44,000	32,271	18,439	15,177	5,211	234	85	*(a)*165,970
Non-agricultural enterprises operating agricultural establishments	584	462	343	153	283	114	3	2	*(a)*2,088
1985–86									
Agricultural establishments	51,728	43,931	33,745	18,739	16,004	5,199	267	103	169,716
Establishments with agricultural activity	52,042	44,317	33,936	18,971	16,258	5,283	269	104	171,180
Agricultural enterprises	50,187	42,941	32,553	18,213	14,922	5,032	238	86	*(a)*164,482
Non-agricultural enterprises operating agricultural establishments	940	855	546	401	547	179	5	3	*(a)*3,636

(a) Includes 'Multi-State' enterprises, i.e. enterprises which operated establishments in more than one State or Territory.

AGRICULTURAL ESTABLISHMENTS (a) INDUSTRY, 1985–86

Industry of establishment										
ASIC Code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.(b)*
A	Agriculture, Forestry, Fishing and Hunting—									
01	Agriculture—									
0124	Poultry for meat	307	131	98	72	50	15	1	—	674
0125	Poultry for eggs	310	196	176	80	104	22	4	2	894
0134	Grapes	763	1,792	111	1,577	201	13	2	—	4,459
0135	Plantation fruit	934	—	891	—	126	—	4	—	1,955
0136	Orchard and other fruit	2,133	1,199	1,223	1,486	645	280	10	4	6,980
0143	Potatoes	176	576	229	108	176	291	—	—	1,556
0144	Vegetables (except potatoes)	912	687	1,282	692	528	210	16	2	4,329
0181	Cereal grains (incl. oilseeds n.e.c.)	4,142	3,457	3,480	2,724	1,649	12	6	—	15,470
0182	Sheep—cereal grains	8,794	4,682	372	4,909	5,587	96	—	2	24,442
0183	Meat cattle—cereal grains	1,575	389	2,201	87	34	16	5	—	4,307
0184	Sheep—meat cattle	3,988	3,207	807	801	795	587	—	18	10,203
0185	Sheep	8,414	7,377	1,295	2,827	2,758	1,228	—	40	23,939
0186	Meat cattle	11,296	7,987	10,007	856	1,833	1,039	190	21	33,229
0187	Milk cattle	2,841	9,697	2,530	1,275	614	1,022	3	1	17,983
0188	Pigs	756	384	661	286	203	95	2	—	2,387
0191	Sugar cane	489	—	5,387	—	—	—	—	—	5,876
0192	Peanuts	2	—	397	—	3	—	—	—	402
0193	Tobacco	23	187	349	—	—	—	—	—	559
0194	Cotton	285	—	184	—	—	—	—	—	469
0195	Nurseries	814	434	475	178	228	50	9	3	2,191
0196	Agriculture n.e.c	2,774	1,549	1,590	781	470	223	15	10	7,412
	Total (ASIC code 01)	*51,728*	*43,931*	*33,745*	*18,739*	*16,004*	*5,199*	*267*	*103*	*169,716*

For footnotes *see* over.

AGRICULTURAL ESTABLISHMENTS (a) INDUSTRY, 1985–86—*continued*

Industry of establishment										
ASIC *Code*	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.(b)*
02	Services to agriculture	11	54	22	18	40	1	—	—	146
03	Forestry and logging	8	4	7	—	5	8	—	—	32
04	Fishing and hunting—	—	—	1	3	6	2	—	—	12
	Total (ASIC division A)	*51,747*	*43,989*	*33,775*	*18,760*	*16,055*	*5,210*	*267*	*103*	*169,906*
B	Mining	5	3	2	3	2	—	—	—	15
C	Manufacturing	31	34	18	50	50	7	1	—	191
D	Electricity,Gas and water	—	2	—	1	—	—	—	—	3
E	Construction	27	82	18	42	28	11	—	—	208
F	Wholesale and Retail Trade	88	68	34	32	32	15	—	—	269
G	Transport and Storage	80	76	20	40	36	24	—	—	276
H	Communication	—	—	—	—	—	—	—	—	—
I	Finance, Property and Business Services	10	14	5	22	7	1	1	—	60
J	Public Administration and Defence	2	—	—	1	—	—	—	—	3
K	Community Services	34	14	58	11	34	12	—	1	164
L	Recreation, Personal and Other Services	18	35	6	9	14	3	—	—	85
	Total, all Industries	**52,642**	**44,317**	**33,936**	**18,971**	**16,258**	**5,283**	**269**	**104**	**171,180**

(a) Includes establishments with an EVAO of less than $3,000. *(b)* Includes the Northern Territory and the Australian Capital Territory.

Value of Agricultural Commodities Produced and Index of Values at Constant Prices

Definitions

Gross value of commodities produced: the value placed on recorded production at the wholesale prices realised in the market place.

Marketing costs: include freight, cost of containers, commission and other charges incurred in marketing.

Local value of commodities produced*:* the value placed on commodities at the place of production as is ascertained by deducting marketing costs from the gross value.

Index of values at constant prices*:* the index of the gross value of commodities produced at constant prices, i.e. it is a measure of change in value after the direct effects of price changes have been eliminated.

VALUES OF AGRICULTURAL COMMODITIES, 1986–87

	Gross value of agricultural commodities produced	*Marketing costs*	*Local value of commodities produced*	*Index of values at constant prices of agricultural commodities produced (a) (Base year: 1979–80 = 1,000)*
	$m	$m	$m	
Crops	7,737.7	1,149.5	6,588.2	1,191
Livestock slaughterings and other disposals	4,611.0	357.1	4,253.9	1,042
Livestock products	4,915.6	240.3	4,675.3	1,189
Total agriculture	**17,272.5**	**1,789.0**	**15,483.5**	**1,144**

(a) Weighted by averages unit values for the year 1979–80.

Publications

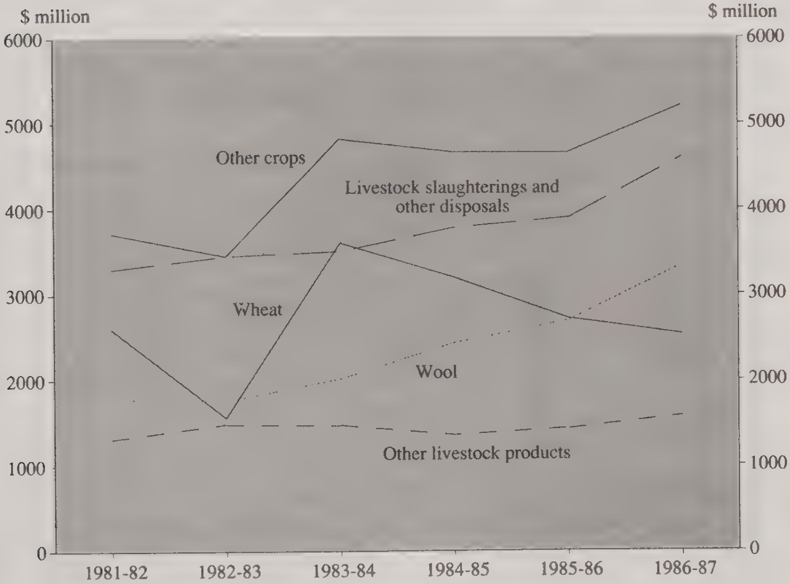
Two preliminary estimates of value of commodities produced are published: *Value of Principal Agricultural Commodities Produced, Australia, Preliminary* (7501.0) and *Value of Selected Agricultural Commodities Produced, Australia, Preliminary* (7502.0). A final publication, *Value of Agricultural Commodities Produced, Australia* (7503.0), contains Indexes of Values at Constant Prices.

Index of Agricultural Commodities Produced

The index is consistent in scope with those of previous years. The indexes are weighted by the average unit values for the year 1979–80 with a reference base of 1979–80 = 1,000.

For further details on how these and earlier series were calculated *see Year Book* No. 61, and *Value of Agricultural Commodities Produced, Australia* (7503.0).

GROSS VALUE OF SELECTED AGRICULTURAL COMMODITIES 1981-82 TO 1986-87



GROSS VALUE OF AGRICULTURAL COMMODITIES PRODUCED
($ million)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Crops—						
Barley for grain	463.4	290.8	732.6	759.3	586.8	432.6
Oats for grain	155.7	116.1	203.8	129.6	138.3	164.8
Wheat for grain	2,599.4	1,566.2	3,605.6	3,202.9	2,719.4	2,530.0
Other cereal grains	294.1	260.4	408.7	400.8	346.3	322.4
Sugar cane cut for crushing	590.2	508.9	516.6	512.2	494.2	586.4
Fruit and nuts	464.4	498.0	552.5	670.9	678.6	837.2
Grapes	222.8	212.5	217.0	259.4	270.0	272.2
Vegetables	554.3	556.9	738.6	628.8	713.6	885.4
All other crops *(a)*	967.6	1,000.5	1,451.1	1,303.5	1,430.5	1,706.7
Total crops	*6,311.9*	*5,010.3*	*8,426.5*	*7,867.4*	*7,377.7*	*7,737.7*
Livestock slaughterings and other disposals *(b)*—						
Cattle and calves *(c)*	1,890.1	2,076.2	2,118.0	2,253.2	2,367.3	2,819.7
Sheep and lambs	646.7	548.0	585.0	576.1	531.6	721.2
Pigs	396.1	414.9	375.5	438.1	438.3	468.5
Poultry	362.7	413.1	430.2	512.6	559.1	601.7
Total livestock slaughterings and other disposals	*3,295.6*	*3,452.2*	*3,508.6*	*3,783.3*	*3,896.4*	4,611.0
Livestock products—						
Wool	1,788.7	1,760.9	2,016.1	2,434.4	2,693.4	3,333.6
Milk	1,033.9	1,186.5	1,153.2	1,035.4	1,106.7	1,257.4
Eggs	253.4	275.3	295.2	291.2	297.7	291.6
Total livestock products (d)	*3,100.6*	*3,245.8*	*3,489.8*	*3,792.8*	*4,125.3*	*4,915.6*
Total value of agricultural commodities produced	**12,708.2**	**11,708.3**	**15,424.9**	**15,443.5**	**15,406.0**	**17,272.5**

(a) Includes pastures and grasses cut for hay and harvested for seed. Excludes crops for green feed or silage. *(b)* Includes net exports of livestock. *(c)* Includes dairy cattle slaughtered. *(d)* Includes honey and beeswax.

INDEX OF VALUES AT CONSTANT PRICES OF AGRICULTURAL COMMODITIES PRODUCED (a)
(Base year: 1979–80 = 1,000)

	1979–80	*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Crops—							
Barley for grain	1,000	932	524	1,321	1,500	1,315	968
Oats for grain	1,000	1,146	603	1,627	999	957	1,169
Wheat for grain	1,000	1,017	545	1,374	1,166	1,008	1,047
Other cereal grains	1,000	1,417	975	1,563	1,485	1,420	1,313
Sugar cane *(b)*	1,000	1,153	1,181	1,074	1,171	1,155	1,128
Fruit and nuts	1,000	988	1,017	968	1,118	1,126	1,354
Grapes	1,000	984	963	994	1,030	1,067	925
Vegetables	1,000	1,056	1,044	1,123	1,289	1,273	1,360
All other crops *(c)*	1,000	1,106	931	1,400	1,671	1,622	1,754
Total	*1,000*	*1,052*	*762*	*1,291*	*1,266*	*1,180*	*1,191*
Livestock slaughterings and other disposals—							
Cattle and calves *(d)*	1,000	1,005	986	860	837	885	984
Sheep and lambs	1,000	946	1,018	936	997	1,072	1,114
Pigs	1,000	1,038	1,087	1,154	1,185	1,234	1,286
Poultry	1,000	893	1,000	952	1,103	1,171	1,227
Total (e)	*1,000*	*988*	*1,002*	*907*	*919*	*974*	*1,042*
Livestock products—							
Wool	1,000	1,012	995	1,026	1,170	1,171	1,252
Milk	1,000	956	1,011	1,089	1,109	1,105	1,130
Eggs	1,000	927	961	935	866	891	902
Total (f)	*1,000*	*990*	*995*	*1,035*	*1,128*	*1,130*	*1,189*
Total agricultural commodities produced	**1,000**	**1,019**	**868**	**1,115**	**1,128**	**1,105**	**1,144**

(a) Indexes of values at constant prices (weighted by average unit values of the year 1979–80). *(b)* Sugar cane cut for crushing and planting. *(c)* Includes pasture and grasses. Excludes crops for green feed or silage. *(d)* Includes dairy cattle slaughtered. *(e)* Component series based on carcass weight. *(f)* Includes honey and beeswax.

Apparent Consumption of Foodstuffs and Nutrients

Estimates of consumption in Australia are compiled by deducting net exports from the sum of production and imports and allowing for recorded movement in stocks of the respective commodities. The term ‘consumption’ is used in a specialised sense, since the quantities actually measured are broadly the quantities available for consumption at a particular level of distribution, i.e. ex-market, ex-store or ex-factory depending on the method of marketing and/or processing. Because consumption of foodstuffs is measured, in general, at ‘producer’ level no allowance is made for wastage before they are consumed. The effect of ignoring wastage is ultimately to overstate consumption but it is believed that more efficient distribution and storage methods in recent years have cut down wastage. Furthermore, it is likely that many of the foodstuffs are being supplemented by householders’ self-supplies over and above the broad estimate already made.

The estimates of consumption per capita have been obtained by using the mean resident population for the period.

More detailed information on the consumption of foodstuffs is contained in the publication *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0). For some commodities, more timely information is contained in the publication *Apparent Consumption of Selected Foodstuffs, Australia, Preliminary* (4315.0).

APPARENT PER CAPITA CONSUMPTION OF FOODSTUFFS
(Kg—unless otherwise indicated)

Commodity	*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Meat and meat products—						
Meat (carcass equivalent weight)						
Beef	47.3	42.4	39.9	40.0	39.3	37.5
Veal	2.6	3.5	2.4	2.1	2.1	1.9
Beef and veal	*49.8*	*45.9*	*42.3*	*42.1*	*41.4*	*39.4*
Lamb	16.3	16.2	16.9	17.0	16.9	15.0
Mutton	3.5	4.5	5.2	6.6	7.1	7.4
Pigmeat *(a)*	15.1	15.3	16.4	16.4	17.0	16.8
Total	*84.7*	*81.7*	*80.9*	*82.9*	*82.3*	*78.5*
Offal and meat, n.e.i.	4.4	4.4	3.4	2.8	2.7	3.4
Total meat and meat products	**89.1**	**86.1**	**84.3**	**85.0**	**85.0**	**82.0**
Poultry—						
Poultry (dressed weight)	19.6	20.3	20.0	21.8	23.0	23.5
Seafood—						
Fresh and frozen (edible weight)—						
Fish—						
Australian	1.6	1.2	1.7	1.8	2.2	2.3
Imported	1.1	1.5	1.8	1.9	1.8	1.8
Crustacea and molluscs	1.0	1.1	0.8	0.9	0.7	0.8
Seafood otherwise prepared (product weight)—						
Australian	0.4	0.6	0.6	0.4	0.5	0.5
Imported						
Fish	1.9	1.5	2.0	1.9	1.8	1.7
Crustacea and molluscs	0.5	0.4	0.4	0.5	0.5	0.5
Total seafood	**6.5**	**6.3**	**7.3**	**7.4**	**7.5**	**7.6**
Milk and milk products—						
Market milk (fluid whole)(litres)	103.1	102.9	101.6	101.8	102.5	102.9
Condensed, concentrated and evaporated milk—						
Full cream sweetened	0.6	0.9	0.7	0.7	2.8	2.5
Full cream unsweetened	2.4	1.8	2.2	2.0		
Skim	1.2	0.8	0.9	1.2	0.9	1.0
Powdered milk—						
Full cream	0.9	0.8	0.7	0.7	0.6	0.9
Skim	2.8	2.7	2.3	2.3	2.3	2.7
Infants’ and invalids’ food	1.3	1.2	1.2	1.0	1.2	1.0
Cheese (natural equivalent weight)	7.0	7.4	7.7	8.1	8.0	8.1
Total (converted to milk solids, fat and non-fat)	**23.0**	**22.7**	**22.5**	**22.7**	**22.6**	**24.1**

For footnotes *see* over.

APPARENT PER CAPITA CONSUMPTION OF FOODSTUFFS—*continued*
(Kg—unless otherwise indicated)

Commodity	*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Fruit and fruit products—						
Fresh fruit (incl. fruit for fruit juice)—						
Citrus	36.4	47.9	51.2	45.3	40.8	40.6
Other	37.8	39.6	38.1	41.4	42.1	45.3
Jams, conserves, etc	1.8	1.8	1.8	2.1	1.9	1.9
Dried fruit	2.3	2.5	2.4	3.0	2.9	2.3
Processed fruit	10.3	9.4	9.8	11.1	8.0	7.7
Total (fresh fruit equivalent)	**97.4**	**110.6**	**113.3**	**114.6**	**106.9**	**106.4**
Vegetables—						
White potatoes	57.6	52.2	62.6	59.9	57.7	60.6
Other root and bulb vegetables	18.7	16.9	17.4	19.3	18.9	18.9
Tomatoes	16.7	16.5	18.6	19.6	16.9	18.0
Leafy and green vegetables	20.8	21.4	21.9	22.5	22.8	21.8
Other vegetables	17.1	17.9	18.3	21.0	20.0	19.9
Total (fresh equivalent weight)	**130.8**	**124.9**	**138.8**	**142.4**	**136.2**	**139.3**
Grain products—						
Flour *(b)*	72.0	67.1	73.1	72.6	71.8	72.0
Breakfast foods—						
Oatmeal and rolled oats	0.9	1.2	1.3	1.3	1.5	1.6
Other (from grain)	7.1	7.6	7.9	8.2	n.a.	8.1
Total breakfast foods	*8.0*	*8.7*	*9.2*	*9.6*	*n.a.*	*9.7*
Table rice	2.9	3.0	3.3	3.7	3.7	3.7
Total grain products	**82.9**	**78.8**	**85.6**	**85.8**	**n.a.**	**85.4**
Bread	47.5	49.3	45.6	45.4	n.a.	n.a.
Eggs and egg products—						
Equivalent number of eggs *(c)*	222	141	145	143	140	138
Nuts (in shell)—						
Peanuts	1.5	2.1	1.8	1.4	1.6	2.1
Tree nuts	3.3	3.2	3.6	3.8	3.8	3.5
Oils and fats—						
Butter	4.3	4.0	3.9	3.9	3.8	3.5
Margarine						
Table margarine	6.8	6.8	6.9	6.6	6.9	6.8
Other margarine	2.7	2.8	2.7	2.3	2.1	2.1
Total margarine	*9.5*	*9.6*	*9.6*	*9.0*	*9.0*	*8.9*
Total (fat content) *(d)*	**21.8**	**21.6**	**21.5**	**21.0**	**21.0**	**20.6**
Sugar—						
As refined sugar	12.5	12.0	11.5	10.0	8.2	8.6
In manufactured foods	34.8	34.0	32.4	34.2	36.8	35.3
Total	*47.2*	*46.0*	*43.9*	*44.2*	*45.0*	*43.9*
Honey	0.9	0.8	0.9	0.7	0.8	0.9
Total *(e)*	**51.5**	**49.6**	**49.0**	**49.1**	**49.9**	**48.9**
Beverages—						
Tea	1.6	1.4	1.5	1.4	1.4	1.3
Coffee *(f)*	1.9	2.0	2.1	2.0	1.6	1.8
Aerated and carbonated waters (litres)	64.2	65.7	63.0	67.3	73.0	73.6
Beer (litres)	128.6	121.6	117.8	114.5	115.5	111.0
Wine (litres)	19.1	19.7	20.4	21.3	21.6	21.0
Spirits (litres alcohol)	1.2	1.2	1.1	1.2	1.3	1.2

(a) Includes bacon and ham. *(b)* Includes flour used for breadmaking. *(c)* Data from 1982–83 consist of commercial disposals only. *(d)* Includes an estimate for vegetable oils and other fats. *(e)* Includes sugar content of syrups and glucose. *(f)* Coffee and coffee products in terms of roasted coffee.

Nutrients

The nutrients table has been compiled by the Nutrition Section of the Commonwealth Department of Community Services and Health and is based on the estimates of the quantity of foodstuffs available for per capita consumption.

For further information on the level of nutrient intake *see* the publication *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

ESTIMATED SUPPLY OF NUTRIENTS AVAILABLE FOR CONSUMPTION (a)
(per capita per day)
(*Source*: Department of Community Services and Health)

Nutrient	*Unit*	*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Protein							
Animal	g	65.0	64.1	62.9	64.3	64.7	63.2
Vegetable	g	33.2	32.2	34.7	34.4	34.1	34.4
Total	*g*	*98.2*	*96.3*	*97.6*	*98.7*	*98.8*	*97.7*
Fat (from all sources)	g	148.0	145.9	146.3	146.0	146.7	143.1
Carbohydrate	g	399.9	386.3	405.7	407.5	404.6	403.1
Calcium	mg	917	914	912	924	914	931
Iron	mg	15.0	14.9	15.1	15.3	15.2	14.9
Vitamin A activity	µg	1,510	1,496	1,446	1,400	1,367	1,436
Vitamin C *(b)*—							
Unadjusted	mg	105.0	114.0	122.0	119.0	112.0	114.0
Adjusted	mg	77.0	88.0	93.2	90.8	83.8	87.3
Thiamin *(b)*—							
Unadjusted	mg	1.8	1.8	1.9	1.9	1.9	1.9
Adjusted	mg	1.5	1.5	1.6	1.6	1.6	1.6
Riboflavin	mg	2.6	2.6	2.6	2.6	2.6	2.6
Niacin *(b)*—							
Unadjusted	mg	22.5	22.7	23.0	23.2	23.2	23.3
Adjusted	mg	38.9	38.7	39.3	39.7	39.7	39.7
Energy value	kJ	14,471	14,125	14,458	14,506	14,497	14,301

(a) Figures are based on conversion factors calculated from the revised and enlarged edition of S. Thomas and M. Corden *Metric Tables of Composition of Australian Foods*, Canberra, 1977. *(b)* Data show adjustments made for loss of nutrients in cooking and the extra niacin obtained from the metabolism of protein.

Land Tenures

Land tenure statistics mainly relate to land held under freehold tenure ('alienated or in process of alienation') or leasehold tenure ('leased or licenced') with all agricultural establishments falling within these categories. Descriptions of the land tenure systems of the States and the Territories, and conspectuses of land legislation in force were provided in *Year Book* No. 48 and *Year Book* No. 50.

Disposal of Crown lands

For a description of the provisions that exist in all mainland States for the disposal of Crown lands for public purposes, for unconditional purchase and occupation under lease or licence, *see Year Book* No. 61.

Closer settlement and war service settlement

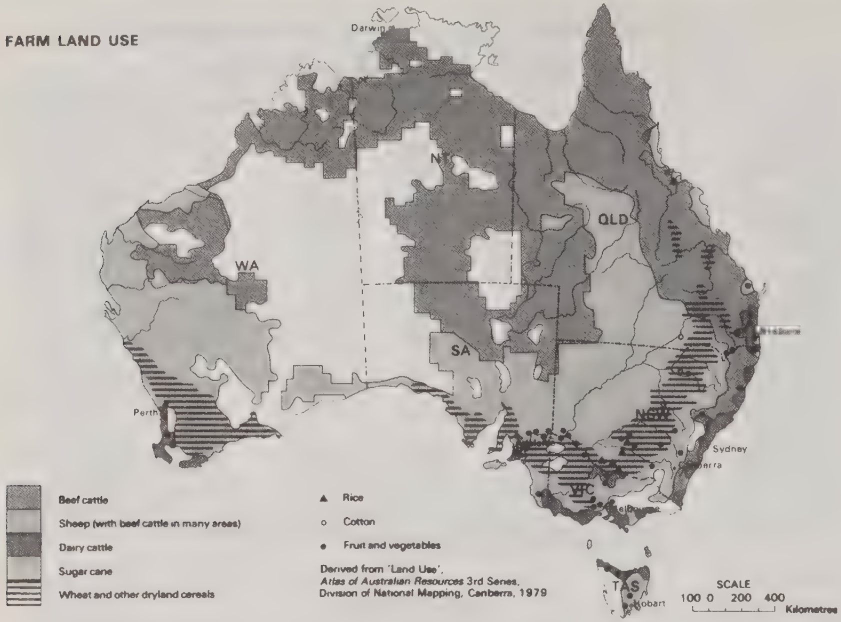
Particulars of these are given in issues of the *Year Book* up to No. 22, and in *Year Book* Nos 48, 55 and 61.

Alienation and occupation of Crown lands

For data relating to land tenures in the States and Territories, *see Year Book* No. 66 and *Year Book* No. 67.

Land Utilisation in Australia

The total area under tenure differs from the total area of agricultural establishments (shown in the following table) by amounts which represent unused land or land held for non-agricultural purposes. In general, land in the more fertile regions tends to be mostly freehold, while the less productive land is held under Crown lease or licence.


FARM LAND USE
Darwin
NT
QLD
WA
SA
NSW
VIC
TAS
Perth
Sydney
Canberra
Melbourne
Hobart
Brisbane
Beef cattle
Sheep (with beef cattle in many areas)
Dairy cattle
Sugar cane
Wheat and other dryland cereals
▲ Rice
○ Cotton
● Fruit and vegetables
SCALE
100 0 200 400
Kilometres

Derived from 'Land Use', *Atlas of Australian Resources* 3rd Series, Division of National Mapping, Canberra, 1979

AREA OF ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY
(million hectares)

At 31 March	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Aust. (incl. ACT)*
1982	63.4	14.4	157.1	62.9	113.5	2.2	77.1	490.8
1983	64.0	14.2	155.9	60.2	112.0	2.2	75.2	483.8
1984	64.0	14.3	158.1	62.1	114.3	2.2	73.7	488.6
1985	63.7	14.2	157.2	62.7	114.0	2.1	74.0	488.0
1986	63.3	14.2	158.1	60.7	113.8	2.1	72.9	485.2
1987	60.8	13.1	152.0	59.4	113.0	2.0	71.2	471.0

LAND UTILISATION: AUSTRALIA
(million hectares)

	Area of			*Total*	
Year	*Crops (a)(b)*	*Sown pastures and grasses (b)*	*Balance (c)*	*Area of establishments*	*Percentage of Australian land area (768,284,000 hectares)*
1981–82	19.6	26.9	444.2	490.8	63.9
1982–83	19.4	25.6	438.8	483.8	63.0
1983–84	22.0	26.1	440.5	488.6	63.6
1984–85	21.1	27.1	439.8	488.0	63.5
1985–86	20.9	27.5	436.8	485.2	63.2
1986–87	20.0	27.3	424.0	471.0	61.3

(a) Excludes pastures and grasses harvested for hay and seed which have been included in 'sown pastures and grasses'. *(b)* Prior to 1981–82 figures related to area 'used for' crop or pasture, i.e., an area used for more than one purpose during the year was counted only once. From 1981–82, an area double cropped or an area of pasture also planted to crop has been counted separately each time used. *(c)* Used for grazing, lying idle, fallow, etc.

The total area of agricultural establishments in 1985–86 constituted 63.2 per cent of the Australian land area, the remainder being urban areas, State forests and mining leases, with an overwhelming proportion of unoccupied land (mainly desert). The balance data include large areas of arid or rugged land held under grazing licences but not always used for grazing. Balance data also include variable amounts of fallow land.

The crop area data represent up to 4.3 per cent of the area of agricultural establishments and emphasise the relative importance of the livestock industry in Australia.

Crops

For this section, statistics relating to crop areas and production have been obtained from the annual Agricultural Census. The Census returns are collected in all States and the two Territories at 31 March each year and relate mainly to crops sown in the previous twelve months.

Where harvests are not completed by March (e.g. potatoes), provision is made in some States for a supplementary collection after the harvest is completed. Additional statistics relating to value of agricultural commodities produced, manufactured production and overseas trade are also included. Agricultural Census data published in this section refer to the 'agricultural' year ended 31 March, while other data refer to the year ended 30 June; but for most purposes there will be little error involved in considering 'agricultural year' data as applying to the financial year.

The following table shows the area of crops in each of the States and Territories of Australia since 1860–61.

AREA OF CROPS (a)
('000 hectares)

Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1860–61	100	157	2	145	10	62	—	—	475
1870–71	156	280	21	325	22	64	—	—	868
1880–81	245	627	46	846	26	57	—	—	1,846
1890–91	345	822	91	847	28	64	—	—	2,197
1900–01	990	1,260	185	959	81	91	—	—	3,567
1910–11	1,370	1,599	270	1,112	346	116	—	—	4,813
1920–21	1,807	1,817	316	1,308	730	120	—	1	6,099
1930–31	2,756	2,718	463	2,196	1,939	108	1	2	10,184
1940–41	2,580	1,808	702	1,722	1,630	103	—	2	8,546
1949–50	2,295	1,881	832	1,518	1,780	114	—	4	8,424
1954–55	2,183	1,904	1,049	1,711	2,069	122	—	2	9,040
1959–60	2,888	1,949	1,184	1,780	2,628	130	1	3	10,564
1964–65	4,182	2,621	1,605	2,414	3,037	163	2	4	14,028
1969–70	4,999	2,212	2,208	2,290	3,912	98	6	2	15,728
1971–72	4,186	1,925	2,017	2,278	3,751	67	7	1	14,231
1972–73	4,329	1,943	1,963	2,122	3,814	80	12	1	14,265
1973–74	4,628	1,981	1,786	2,451	4,133	74	6	1	15,060
1974–75	4,089	1,772	1,898	2,257	3,754	67	7	1	13,845
1975–76	4,285	1,851	2,010	2,116	4,208	60	8	1	14,539
1976–77	4,520	1,943	2,026	2,036	4,417	65	2	1	15,010
1977–78	4,984	2,163	2,107	2,564	4,910	70	1	1	16,800
1978–79	5,020	2,209	2,307	2,827	4,993	80	2	1	17,438
1979–80	5,243	2,243	2,334	2,771	5,281	79	2	1	17,954
1980–81	5,208	2,180	2,481	2,772	5,547	84	1	1	18,273
1981–82	5,744	2,184	2,765	2,865	5,963	90	2	1	19,613
1982–83	5,200	2,234	2,648	2,856	6,380	98	3	1	19,420
1983–84	6,566	2,655	2,998	3,108	6,526	101	5	1	21,961
1984–85	5,789	2,569	3,047	2,902	6,723	99	6	1	21,136
1985–86	5,990	2,528	3,231	3,039	5,970	88	7	1	20,853
1986–87	5,325	2,317	3,036	3,066	5,930	78	12	—	19,764

(a) The classification of crops was revised in 1971 72 and adjustments made to statistics back to 1967–68. After 1966–67 lucerne for green feed, hay and seed, and pasture cut for hay and harvested for seed or green feed are excluded.
NOTE: From 1970–71 to 1980–81 figures related to area 'used for' crops, i.e. an area used for more than one purpose during the year was counted only once. From 1981–82, an area double cropped has been counted separately each time used.

The wide range of climatic and soil conditions over the agricultural regions of Australia has resulted in a diversity of crops being grown throughout the country. Generally, cereal crops (excluding rice, maize and sorghum) are grown in all mainland States over wide areas, while other crops are confined to specific locations in a few States. However, scanty or erratic rainfall, limited potential for irrigation and unsuitable soils or topography have restricted intensive agriculture. Despite this, agricultural production has increased over time to meet increased demands both in Australia and from overseas.

The following table provides a summary of the area, production and gross value of the principal crops in Australia.

CROPS: AREA, PRODUCTION AND GROSS VALUE

	1984–1985			*1985–86*			*1986–87*		
	Area ('000 ha)	*Production ('000 tonnes)*	*Gross value ($m)*	*Area ('000 ha)*	*Production ('000 tonnes)*	*Gross value ($m)*	*Area ('000 ha)*	*Production ('000 tonnes)*	*Gross value ($m)*
Cereals for grain—									
Barley	3,518	5,554	759	3,238	4,868	587	2,274	3,548	433
Grain sorghum	723	1,369	197	729	1,416	181	818	1,419	162
Maize	103	291	46	82	278	40	58	206	31
Oats	1,041	1,367	130	1,049	1,330	138	1,140	1,584	165
Rice	122	866	123	106	716	81	96	608	85
Wheat	12,078	18,666	3,203	11,683	16,167	2,719	11,135	16,119	2,530
Legumes for grain	787	784	114	889	854	163	1,244	1,315	294
Crops for hay—									
Oats	182	633	45	171	594	47	205	676	58
Wheat	53	163	12	59	165	13	67	186	15
Crops for green feed, silage—									
Barley	54	n.a.	n.a.	75	n.a.	n.a.	85	n.a.	n.a.
Forage sorghum	81			116			177		
Oats	571			662			645		
Wheat	19			29			71		
Sugar cane cut for crushing	313	25,450	512	304	24,402	494	300	24,742	586
Tobacco	5	12	65	5	11	56	5	12	65
Cotton	183	679	330	177	685	325	156	612	373
Peanuts (in shell)	30	42	37	29	43	38	34	48	42
Soy Beans	48	110	36	63	105	28	54	90	27
Rapeseed	30	32	10	74	87	24	65	76	18
Sunflower	354	293	88	277	215	53	193	137	34
Fruit (excl. grapes)	109	—	259	113	—	679	107	—	837
Fruit—									
Orchard	91	—	522	94	—	518	89	—	634
Oranges	n.a.	445	132	n.a.	496	132	n.a.	504	126
Apples	21	352	178	20	292	139	19	325	205
Pears	n.a.	139	51	n.a.	143	64	n.a.	145	77
Peaches	n.a.	60	28	n.a.	61	29	n.a.	61	41
Bananas	9	145	93	10	134	102	9	156	127
Pineapples	6	125	33	6	132	33	6	142	42
Grapes	64	890	259	64	907	270	57	783	272
Vegetables	111	—	629	111	—	714	111	—	885
Potatoes	38	992	163	36	965	206	37	1,015	267
Total, all crops (excluding pastures)	**21,136**	**—**	**7,626**	**20,853**	**—**	**7,049**	**19,764**	**—**	**7,318**

In the tables that follow, crop statistics are shown in these groupings: wheat, coarse grains, rice, oilseeds, sugar, vegetables, fruit, grapes and other crops such as tobacco, mushrooms and fodder crops.

Cereal Grains

In Australia, cereals are conveniently divided into autumn–winter–spring growing ('winter' cereals) and spring–summer–autumn growing ('summer' cereals). Winter cereals such as wheat, oats, barley and rye are usually grown in rotation with some form of pasture such as grass, subterranean clover, medics or lucerne. In recent years, alternative winter crops such as rapeseed, field peas and lupins have been introduced to cereal rotation in areas where they had not previously been grown. Rice, maize, sorghum and the millets are summer cereals with the latter two being grown in association with winter cereals in some areas. In Northern Queensland and Western Australia there are two rice growing seasons—a dry season winter crop and a wet season summer crop.

Cereals for grain form a significant percentage of both the value of Australia's agricultural commodities and of the country's export earnings. The following table shows the significance of cereal grains in the last 6 years.

CEREAL GRAINS IN AUSTRALIA: A PERSPECTIVE

	Cereal grains (a)					
Year	*Gross value*	*Export value f.o.b.*	*Total agriculture gross value*	*Total Australian exports—all produce value f.o.b.*	*Gross value of cereal grains as a percentage of gross value of agriculture*	*Export value of cereal grains as a percentage of total Australian exports*
	$m	$m	$m	$m	per cent	per cent
1981–82	3,512.7	2,367.9	12,708	19,294	27.6	12.1
1982–83	2,230.4	1,669.7	11,714	21,454	19.0	7.6
1983–84	4,950.6	2,564.9	15,425	24,013	32.1	10.9
1984–85	4,492.6	4,068.8	15,444	29,708	29.1	13.9
1985–86	3,790.8	3,812.6	15,406	32,795	24.6	11.9
1986–87	3,449.8	2,628.0	17,272	35,783	20.0	7.3

(a) Principally wheat, barley, oats, grain sorghum, rice and maize, with panicum/millet, canary seed and rye being minor cereals.

Wheat

Wheat is grown in all States, and is Australia's most important crop in terms of production and exports. As 70 to 80 per cent of the wheat crop is exported, wheat marketing arrangements play an important role in the industry. The Australian Wheat Board (AWB) was constituted in September 1939, under National Security (Wheat Acquisition) Regulations, to purchase, sell or dispose of wheat and wheat products. At the end of World War II, the AWB continued to operate under extensions to these regulations, until 1948, when the Commonwealth and States agreed to national marketing arrangements. After a poll of growers had approved the plan the necessary complementary legislation was passed by the Commonwealth and the States. The *Wheat Industry Stabilization Act 1948* established the present AWB to acquire and market all wheat and to administer successive stabilisation plans. The *Wheat Marketing Act 1979* replaced the stabilisation plans with a guaranteed minimum price scheme, applicable to an unlimited quantity of wheat.

Wheat marketing and pricing arrangements 1984–85 to 1988–89

The basic elements of the new arrangements were negotiated between the Australian Wheatgrowers' Federation (now renamed the Grains Council of Australia) and Commonwealth and State Governments. The enactment of State legislation complementary to the Commonwealth legislation was necessary for the implementation of a national scheme.

Under current arrangements, the AWB continues as a statutory authority responsible for the marketing of wheat in Australia and overseas although it can now issue permits for the domestic sale of stockfeed wheat outside the pooling arrangements. The concept of a guaranteed minimum price is retained. The AWB has been given greater commercial freedom but is required to operate in accordance with an approved corporate plan and be accountable to growers as well as parliament. The following are important features in the current plan.

Guaranteed Minimum Price

The Commonwealth Government underwrites wheat returns on a net basis through a Guaranteed Minimum Price (GMP) Scheme. The Australian Standard White (ASW) GMP is set at 95 per cent of the average of the estimated gross return per tonne for all wheat (ASW basis) from the subject season and the lowest two of the previous three seasons less the estimated pool costs per tonne for the subject season. Separate GMPs are established for categories of wheat, the quality of which is above or below ASW, based on the expected market value of the wheat in those categories relative to ASW.

Growers receive a split first advance payment. Upon delivery of the wheat, a grower is paid 90 per cent of the estimated GMP for the relevant category less contributions to research (wheat tax), dockages for non-approved varieties and allowances for storage, handling and transportation charges. When the final GMP has been determined (before 1 March during the subject season), the grower receives the final GMP, increased or decreased by an allowance for the quality of wheat (in addition to the deductions made at the time of delivery), less the interim advance payment already received. Initial allowances may be adjusted by the Board at a later date to reflect actual costs and returns. If the net return per tonne exceeds the GMP, the excess is returned to growers by way of a final payment, which may be made by instalments over a number of years. The government meets any deficiency between the net pool return rate and the GMP.

These arrangements are market related but they provide the industry with support from the government that is designed to help it overcome any major short-run down-turn in producers' returns. Particulars of GMP rates may be found in *Crops and Pastures, Australia* (7321.0).

Financial arrangements

From 1984–85, the AWB with the Minister's approval has been able to borrow overseas up to an amount equal to the aggregate size of expected foreign currency denominated sales in respect of a particular season, provided that amount does not exceed that season's net financing requirement.

Domestic pricing

The domestic price for human consumption wheat is determined each quarter by averaging the quoted export prices for the forward and past quarters and adding a margin to cover the additional costs of servicing the domestic market. The prices for the four quarters from October 1987 ranged from $181.18 per tonne to $202.02 per tonne, including $1.90 per tonne Tasmanian freight levy. This levy applies to all domestic wheat sales and is used exclusively to cover the cost of shipping wheat from the mainland to Tasmania each season.

Domestic prices for industrial and stockfeed wheats are quoted daily by the AWB in the light of its commercial judgment and are related to export prices.

Domestic marketing arrangements

The AWB controls the domestic marketing of wheat although domestic stockfeed wheat may be directly sold by growers to buyers under a permit issued by the AWB. The availability of these permits is governed by guidelines issued by the Federal Minister for Primary Industries and Energy and the relevant State Ministers. Wheat sold pursuant to a stockfeed purchase permit is subject to a deduction to cover wheat research tax, Tasmanian freight, the AWB's administration costs and a reduced bulk handling authority charge. No pooling or GMP provisions or minimum or maximum prices apply in respect of such wheat.

The AWB may also authorise a grower to sell wheat on behalf of the AWB under grower-to-buyer direct delivery transactions. The grower and buyer negotiate quality and freight allowances around the AWB's domestic ASW price applicable for the same end use. The proceeds of sale are incorporated in the AWB's pooling arrangements.

The grower receives payment from the AWB as if he had delivered ASW wheat, adjusted by the abovementioned allowances and a reduction in the relevant bulk handling authority's charge.

Wheat which is retained by a grower for his own use does not come under the control of the AWB.

The AWB has power to import wheat for use on the domestic market.

Overseas marketing arrangements

Under the 1984 Act, the AWB maintains sole authority for the export of wheat but no longer controls the export of wheat products. The Act extends the powers of the Board in relation to overseas marketing to enable it to enter into tripartite barter arrangements and the sale and shipment of other grains in combination with wheat. The AWB undertakes market research and promotion both within and outside Australia.

Wheat classification

Unlike the other wheat exporting nations, Australia does not produce red grained wheats, nor does it have the traditional winter or spring wheats found in the northern hemisphere.

All Australian wheats are white grained, and all are planted during the Australian winter months of May, June and July. They grow during the spring months of August, September and October. The harvest commences in Queensland in September–October and gradually progresses southwards, culminating in Victoria and the southern part of Western Australia in January.

The various combinations of wheat varieties, soil fertility and seasonal conditions encountered throughout the Australian wheat belt enable a wide spectrum of recognised wheat types to be produced. These range from high protein hard grained wheats to low protein soft grained wheats.

Before wheat delivered by farmers can be received into the bulk handling system, the wheat must conform to strict receival standards. These standards are set by the AWB and are collectively referred to as Australian Standard White specification, which broadly relates to moisture content (12 per cent maximum), test weight (74 kilograms per hectolitre minimum), no insects, and a range of tolerances for unmillable material, weather damaged and sprouted kernels, foreign matter and foreign seeds.

In addition to the receival standards, a system of varietal control operates Australia-wide in which the AWB can impose a monetary penalty on wheat received according to the variety delivered and the region of production. The aim of this system is to ensure that varieties are grown in areas where the protein content that they are likely to achieve is in line with the processing characteristics of the wheat (grain hardness, milling quality, dough properties), and to highlight to growers the need to grow marketable varieties of wheat.

The system of classification of Australian wheats has evolved in response to changing market demands. The wheats are classified into two broad categories, namely the milling and non-milling classes, according to test weight, grain soundness and other physical factors. Further classification into grades is based on wheat variety, protein content and grain hardness.

Australian wheats of the following categories are suitable for milling purposes:

- Australian Prime Hard
- Australian Hard
- Australian Standard White (ASW)
- Australian Soft
- Australian Durum
- Australian General Purpose 1
- Australian General Purpose 2 and Feed categories are non-milling wheats which have incurred weather damage or have some other defect.

There can exist within each category a number of individual classes, many of which have been developed to meet individual customer requirements. Particulars of Australian wheat standards may be found in *Crops and Pastures, Australia* (7321.0).

Central Grain Research Laboratory

In 1976, the Australian Wheat Board established this laboratory in Sydney as an addition to the facilities of the Bread Research Institute of Australia. The main functions of the laboratory are to test and report on the Australian crop, to analyse and compare competitor wheats from other countries and to develop research programs to aid the marketing of wheat.

WHEAT: AREA, PRODUCTION AND RECEIVALS

	Area (a)		*Production (a)*		*Australian Wheat Board*
Season	*For grain*	*All purposes*	*Grain*	*Gross value*	*receivals (b)*
	'000 ha	'000 ha	'000 tonnes	$m	'000 tonnes
1981–82	11,885	11,995	16,360	2,599.4	*(b)*15,531
1982–83	11,520	11,755	8,876	1,566.2	7,927
1983–84	12,931	13,025	22,016	3,605.6	21,059
1984–85	12,078	12,150	18,666	3,202.9	17,544
1985–86	11,736	11,823	16,167	2,719.4	15,085
1986–87	11,135	11,274	16,119	2,530.4	15,288

(a) Area and production data relate to the year ending 31 March. *(b)* Due to amendments to the *Wheat Marketing Act 1979*, the AWB has changed from a December–November to an October–September crop year. To facilitate this transition, 1981–82 was a 10 month (December–September) reporting period.

WHEAT FOR GRAIN: AREA AND PRODUCTION, BY STATE

Season	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust.*
AREA ('000 hectares)							
1981–82	3,600	1,322	941	1,427	4,593	1	11,885
1982–83	3,162	1,327	767	1,398	4,865	1	11,520
1983–84	3,999	1,614	1,006	1,564	4,746	2	12,931
1984–85	3,603	1,523	921	1,378	4,652	2	12,078
1985–86	3,663	1,508	973	1,443	4,148	2	11,736
1986–87	3,099	1,364	795	1,616	4,260	2	11,135
PRODUCTION ('000 tonnes)							
1981–82	5,910	2,467	1,482	1,695	4,803	2	16,360
1982–83	1,499	394	754	692	5,534	1	8,876
1983–84	8,961	3,971	1,922	2,843	4,316	3	22,016
1984–85	5,805	2,666	1,579	2,031	6,580	4	18,666
1985–86	5,916	2,250	1,691	1,944	4,362	4	16,167
1986–87	4,855	2,795	833	2,255	5,377	5	16,119

PRODUCTION AND DISPOSAL OF WHEAT
('000 tonnes)

	1982	*1983*	*1984*	*1985*	*1986*	*1987*
Year ended 31 March—						
Production	16,360	8,876	22,016	18,666	16,167	16,139
Balance held on farm for seed, feed and other uses	829	949	957	1,122	1,082	851
Year ended 30 September *(a)*—						
Wheat received	15,531	7,927	21,059	17,544	15,085	15,288
Carry-in	2,044	4,879	2,285	7,518	8,456	5,838
Total availability for export, domestic disposal and carryover	17,575	12,806	23,344	25,062	23,541	21,126
Exports of wheat, flour and wheat products	11,068	7,280	14,159	14,679	16,026	15,582
Domestic disposals	1,628	3,241	1,667	1,941	1,709	1,772
Total disposals	*12,696*	*10,521*	*15,826*	*16,620*	*17,735*	*17,354*

(a) Due to amendments to the *Wheat Marketing Act 1979*, the AWB has changed from a December–November to an October–September crop year. To facilitate this transition, 1981–82 was a 10 month (December–September) reporting period.

Wheat pools

Details of wheat receivals by State of origin for the several Pools together with Pools payments and times of payment will be found in the latest issue of *Crops and Pastures, Australia* (7321.0).

International Wheat Agreement

A number of Agreements have operated since 1933 to provide a valuable framework for continuing international consultation and cooperation on world wheat matters, including the regular monitoring of the world wheat situation. On 1 July 1986, the International Wheat Agreement 1986 entered into force and will remain in force until 30 June 1991. It comprises two separate legal instruments, the Wheat Trade Convention and the Food Aid Convention, linked by a common preamble. The primary objective of the Wheat Trade Convention is to promote international cooperation in all aspects of trade in wheat and other grains. Under the Food Aid Convention, countries undertake to provide minimum annual amounts of food grain as aid. Contributions are made by both wheat importing and exporting countries in the form of grain (or grain products) for human consumption or cash for the purchase of grain.

WHEAT EXPORTS: A COMPARISON WITH OTHER EXPORT COMMODITIES (a)

	Wheat for grain: export		*Total Australian exports— all produce: value f.o.b.*	*Export value of wheat for grain as a percentage of total Australian exports*
Year	*Quantity*	*Value f.o.b.*		
	'000 tonnes	$m	$m	per cent
1981–82	10,912	1,719.7	19,249	8.8
1982–83	8,022	1,343.1	21,454	6.1
1983–84	10,535	1,813.8	24,013	7.3
1984–85	15,704	2,866.9	29,708	9.8
1985–86	16,109	2,968.8	32,795	9.3
1986–87	14,789	2,168.3	35,783	6.1

(a) These statistics exclude re-exports.

WORLD WHEAT: AREA AND PRODUCTION

(*Source*: **International Wheat Council, World Wheat Statistics, 1986)**

	Area (million hectares)			*Production (million tonnes)*		
	1984–85	*1985–86*	*1986–87*	*1984–85*	*1985–86*	*1986–87*
Europe	27.2	26.3	27.0	129.2	112.5	116.1
EEC (10)	13.6	13.0	15.7	76.1	65.6	72.0
USSR	51.1	50.3	48.7	68.6	78.1	92.3
North and Central America	41.3	40.9	40.0	96.4	95.5	93.0
Canada	13.2	13.7	14.2	21.2	24.3	31.4
United States	27.1	26.2	24.6	70.6	66.0	56.8
South America	8.9	9.0	10.2	17.4	15.1	16.9
Asia	83.3	83.5	83.2	177.1	177.6	188.4
China *(a)*	29.6	29.2	29.7	87.8	85.8	90.3
India	24.7	24.4	23.1	45.5	44.2	46.9
Iran	6.0	6.0	6.2	6.0	6.5	6.6
Pakistan	7.4	7.3	7.4	10.9	11.7	13.9
Turkey	9.0	9.1	9.3	17.2	17.0	19.0
Africa	8.3	8.6	8.0	9.4	10.5	11.6
Oceania	12.2	11.8	11.3	19.0	16.3	16.5
Australia	12.1	11.7	11.2	18.7	16.2	16.1
Total	**232.3**	**230.5**	**228.5**	**516.8**	**505.3**	**534.8**

(a) Excludes Taiwan Province: FAO estimates.

NOTES:
1. Crop years shown cover northern hemisphere harvests combined with those of the southern hemisphere which immediately follow.
2. The ten members of the EEC are: Belgium, Denmark, France, Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg, Netherlands and the United Kingdom.

Australia acceded to the Wheat Trade Convention, 1986 in July 1986. Major changes from the previous Wheat Trade Convention, which operated from 1971, include expansion to cover coarse grains and amendments to reflect the fact that the Convention does not contain economic provisions. The Wheat Trade Convention through its plenary body, the International Wheat Council (IWC), provides a forum for exchange of information and discussion of members' concerns regarding trade in grains. In the context of the current round of GATT Multilateral Trade Negotiations, Australia has proposed that the IWC Secretariat undertake a study examining the effects of changes in national policies on world grains markets.

Australia made a formal application to accede to the Food Aid Convention, 1986 at the 53rd Session of the Food Aid Committee in December 1986 with a minimum annual contribution of 300,000 tonnes, compared with 400,000 tonnes under the previous Convention. The decision to reduce the level of Australia's commitment was made against the background of the severe economic difficulties being experienced in Australia which, inter alia, have effectively reduced our capacity to provide development assistance, including food aid. Australia's application was accepted at the 54th Session of the Food Aid Convention in June 1987.

Coarse grains

In the late sixties and early seventies, restrictions on wheat deliveries and low returns in the sheep industry caused a resurgence of interest in coarse grain crops and the newer oilseed crops. The resultant higher level of plantings and production has been maintained, despite the lifting of wheat delivery quotas and a general improvement in market prospects for wheat, wool and meat.

Oats

Oats are traditionally a cereal of moist temperate regions. However, improved varieties and management practices have enabled oats to be grown over a wide range of soil and climatic conditions. They have a high feed value and produce a greater bulk of growth than other winter cereals; they need less cultivation and respond well to superphosphate and nitrogen. Oats have two main uses: as a grain crop, or as a fodder crop, (following sowing or fallow or rough sowing into stubble or clover pastures). Fodder crops can either be grazed and then harvested for grain after removal of livestock or else mown and baled or cut for chaff. Oats produced in New South Wales are marketed through a statutory board while the Victorian Oatgrowers' Pool and Marketing Company Ltd and private merchants market the bulk of oats produced in Victoria. In South Australia the Barley Marketing Act was amended in 1977 to give the Australian Barley Board powers over oat marketing in that State. Under the legislation amendments, the Board controls export sales and grain resold on the local market; however, direct sales between producers and consumers are outside the Board's supervision. In Western Australia, oats are marketed under a warehousing system operated by Co-operative Bulk Handling Ltd.

Oats are usually next in importance to wheat and barley among the grain crops. About three-quarters of the crop is used domestically as stockfeed or for human consumption.

OATS FOR GRAIN: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1981–82	1,388	1,617	155.7	153	24.1
1982–83	1,212	848	116.1	83	13.2
1983–84	1,772	2,296	203.8	289	40.9
1984–85	1,041	1,367	129.6	391	49.0
1985–86	1,068	1,330	138.3	185	25.1
1986–87	1,140	1,584	164.8	190	26.3

Barley

This cereal contains two main groups of varieties, 2-row and 6-row. The former is generally, but not exclusively, preferred for malting purposes. Barley is grown principally as a grain crop although in some areas it is used as a fodder crop for grazing, with grain being subsequently harvested if conditions are suitable. It is often grown as a rotation crop with wheat, oats and pasture. When sown for fodder, sowing may take place either early or late in the season, as it has a short growing period. It may therefore provide grazing or fodder supplies when other sources are not available. Barley grain may be crushed to meal for stock or sold for malting.

Crops sown for malting purposes require a combination of light textured soil of moderate fertility, reliable rainfall, and mild weather during ripening. The main barley-growing areas in Australia are situated in South Australia, but considerable quantities are also grown in New South Wales, Western Australia, Victoria and Queensland. In December 1980, a joint Commonwealth–industry research scheme for the barley industry commenced operation. The scheme is financed by a levy on barley production and a Commonwealth contribution not exceeding the total of the levy.

Barley is marketed by statutory marketing authorities in each of the mainland States. The Australian Barley Board controls marketing in both South Australia and Victoria, while separate authorities operate in the three other States.

BARLEY FOR GRAIN: AREA, PRODUCTION AND EXPORTS

		Production				*Exports*	
				Total			
Year	*Area*	*2-row*	*6-row*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	—'000 tonnes—			$m	'000 tonnes	$m
1981–82	2,685	3,252	198	3,450	463.5	1,577	241.3
1982–83	2,452	1,785	153	1,939	287.6	834	131.4
1983–84	3,109	4,585	305	4,890	732.6	3,121	499.4
1984–85	3,518	5,194	361	5,554	759.3	5,183	750.0
1985–86	3,284	4,635	233	4,868	586.8	4,168	536.6
1986–87	2,274	3,397	151	3,548	432.6	2,191	254.1

Grain sorghum

The sorghums are summer growing crops which are used in three ways: grain sorghum for grain; sweet or fodder sorghum, sudan grass and, more recently, columbus grass for silage, green feed and grazing; and broom millet for brooms and brushware.

Grain sorghum has been grown extensively only in the last two decades. Rapid increases in production have resulted in a substantial increase in exports over this period. The grain is used primarily as stockfeed and is an important source for supplementing other coarse grains for this purpose.

The climatic conditions of Queensland and northern New South Wales are particularly suited to the growing of sorghum. In Queensland, grain sorghum production is concentrated in the Darling Downs, Fitzroy and Wide Bay–Burnett Divisions. In New South Wales, the northern and north-western slopes and plains are the main areas.

In Queensland, a degree of orderly marketing is ensured by the operation of the Central Queensland Grain Sorghum Marketing Board (a statutory authority in a defined area in central Queensland). A State statutory marketing board handles sorghum grown in New South Wales.

GRAIN SORGHUM: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1981–82	648.6	1,316.7	140.1	1,270.9	152.8
1982–83	706.5	958.0	124.4	445.0	53.9
1983–84	730.3	1,885.5	246.3	772.1	110.7
1984–85	723.0	1,369.0	196.9	1,593.6	242.1
1985–86	734.2	1,415.7	180.8	1,234.2	177.6
1986–87	818.0	1,419.0	161.5	817.9	90.6

Maize

Like sorghum, maize is a summer cereal demanding specific soil and climatic conditions. Maize for grain is almost entirely confined to the south-east regions and Atherton Tablelands of Queensland; and the north coast, northern slopes and tablelands and the Murrumbidgee Irrigation Area in New South Wales. Small amounts are grown in all States, except South Australia, for green feed and silage, particularly in association with the dairy industry.

A statutory board controls the marketing of maize in the Atherton Tablelands area of Queensland. A large proportion of the crop is sold directly to food processors.

MAIZE: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1981–82	61.0	212.4	29.6	14.2	1.9
1982–83	64.3	139.1	23.3	18.3	2.4
1983–84	68.4	238.2	35.6	19.0	2.8
1984–85	102.9	291.4	46.1	139.8	24.9
1985–86	84.2	277.7	40.4	81.3	13.2
1986–87	58.0	206.0	31.1	45.7	7.0

Rice

In Australia, rice was first grown commercially in 1924–25 in the Murrumbidgee Irrigation Area, one of three irrigation areas in southern New South Wales where rice is now produced. Today, about 97 per cent of Australia's rice is grown in New South Wales. The remainder is grown in the Burdekin River basin and at Mareeba in Northern Queensland.

Rice is a summer growing crop in New South Wales. The combination of irrigation water and the relatively cloudless days characteristic of summers in temperate regions of the world is the main contributing factor to the very high yields per hectare often achieved by New South Wales growers. In Queensland, a winter and a summer crop are grown.

State statutory marketing boards are responsible for the marketing of the New South Wales and Queensland crops.

RICE: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity (a)*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1981–82	122.9	853.9	103.5	596.3	195.4
1982–83	84.8	547.7	88.4	404.7	120.3
1983–84	119.0	632.2	88.9	245.6	91.9
1984–85	122.0	865.7	123.1	341.4	121.7
1985–86	106.6	716.1	80.5	177.9	77.0
1986–87	96.0	608.0	85.1	185.5	73.6

(a) In terms of paddy (or rough) rice.

Oilseeds

Specialised oilseeds

The oilseeds industry is a relatively young industry by Australian agricultural standards. Production has increased rapidly in recent years following changes in relative profitability and agronomic advances. The expected profitability of oilseeds relative to crops such as wheat and coarse grains will continue to influence future production levels in the industry. This profitability will be related to domestic and international markets for protein meals and vegetable fats and oils.

The specialist oilseed crops grown in Australia are sunflower, soybeans, rapeseed, safflower and linseed. Sunflower and soybeans are summer grown while the others are winter crops. In Australia, oilseeds are crushed for their oil, which is used for both edible and industrial purposes and protein meals for livestock feeds.

Oilseed crops are grown in all States but the largest producing regions are the grain growing areas of the eastern States.

For area, production and gross value of several oilseed crops, *see* Crops: area, production and gross value in the Crops section of this chapter.

Sunflower

When crushed, sunflower seed yields a high quality dual purpose oil used primarily to manufacture margarine, salad and cooking oils.

Queensland produces about two-thirds of the Australian crop with the Darling Downs and Central Highlands being the major regions. New South Wales is the next largest producer with the north-west of the State dominating production. Smaller amounts are produced in all other States except Tasmania.

Soybeans

The major uses of soybean oil are in salad and cooking oils and margarine. Small amounts are used in the production of paints, detergents and plastics. Soybeans also yield a high protein feed for livestock with a small proportion used to manufacture adhesives and synthetic fibres and meats.

Queensland and New South Wales produce virtually all of Australia's soybean crop. The main producing areas are the irrigation districts of the Darling Downs and northern New South Wales. Lesser areas include the Burnett and Lockyer regions of Queensland, while production of raingrown soybeans is expanding on the North Coast of New South Wales.

In irrigated areas, soybeans have increasingly been used as a rotational crop for cotton.

Rapeseed

The main use of rapeseed oil has been in salad and cooking oils and in margarine with a small amount being used for industrial purposes.

The major production areas are the tablelands and western slopes of New South Wales followed by the south-east of South Australia and the Western Districts of Victoria. Smaller levels of production occur in the South Coast region of Western Australia.

Following significant increases in the 1960s and 1970s, rapeseed production declined rapidly due to problems of blackleg disease and erucic acid content. Production has recovered in recent years with the development of varieties to overcome these problems and in response to the crop rotation benefits of rapeseed.

Safflower

The oil from safflower is used in the production of cooking oil, margarine, soaps, paints, varnishes, enamels and textiles. In recent years, New South Wales and Queensland together have produced around 90 per cent of Australian output. In Queensland, most production occurs in the Central Highlands with smaller amounts coming from the Dawson–Callide Valley and the Darling Downs. New South Wales production is centred on the Central West.

Wide fluctuations in safflower production since the mid 1960s have been due to variable seasonal conditions affecting yields and the profitability of other crops which has influenced plantings.

Linseed

The oil from crushed linseed is used in the manufacture of paints, varnishes, technical inks and linoleum.

The main producing areas are the wheat belt of New South Wales, the Darling Downs in Queensland, the Western Districts of Victoria and, to a lesser extent, the south-eastern districts of Victoria. Linseed production has been generally declining in recent years.

Other oilseeds

Peanuts and cottonseed are summer crops grown primarily for human consumption and fibre purposes respectively. The rapid expansion of the cotton industry in recent years has resulted in cottonseed becoming the major oilseed in Australia. Cottonseed oil is used mainly in the manufacture of compound cooking fats and margarine. The least important source of vegetable oils in Australia is peanuts as it is only the low quality kernels which are crushed for oil. Crushings may vary between 3,000 and 7,000 tonnes per annum depending on the quality of the crop. Peanut oil is a high quality oil which is used in the manufacture of margarine and in compound cooking fats and is also used as a cooking and salad oil.

Peanuts

The major peanut growing areas are around Kingaroy in south-east Queensland and the Atherton Tablelands in North Queensland, with smaller pockets of production around Tweed Heads in New South Wales and around Douglas in the Northern Territory.

About 80 per cent of peanuts grown in Australia are of Virginia variety, the remainder being of Spanish types.

Although area planted to peanuts has stabilised in recent years at around 25,000 to 33,000 hectares, production has fluctuated depending on seasonal conditions. Output in 1985–86 is estimated to total some 43,500 tonnes compared with 42,400 tonnes produced in 1984–85.

Local demand for peanuts and peanut products is comparatively static with a limited potential for growth corresponding to population growth. The local growing industry normally supplies most of the domestic demand for edible peanuts in its major outlets: peanut butter, packaged trade and confectionery. Any surplus is sold on export markets. Exports vary according to the size of the crop.

PEANUTS: AREA, PRODUCTION AND GROSS VALUE

Year	*Area*	*Production*	*Gross value*
	'000 hectares	'000 tonnes	$ million
1981–82	33.4	57.6	37.0
1982–83	35.9	23.3	17.8
1983–84	32.3	47.2	40.2
1984–85	30.0	42.4	36.6
1985–86	29.2	43.4	38.1
1986–87	34.3	48.0	42.0

Cotton

Cotton is grown primarily for its fibre (lint). When the cotton is matured, seed cotton is taken to a gin where it is separated (ginned) into lint, seed and thrash. Lint is used for yarn while seed is further processed at an oil mill. There the short fibres (linters) remaining on the seed after ginning are removed. They are too short to make into cloth but are used for wadding, upholstery and paper. The seeds are then separated into kernels and hulls. Hulls are used for stock feed and as fertiliser, while kernels are crushed to extract oil. The remaining cake is ground into meal which is protein roughage used as stock feed.

Over three-quarters of Australia's total production of cotton lint is grown in New South Wales, principally in the Namoi, Macquarie, Gwydir and McIntyre Valleys and the Bourke area. Irrigation water for these areas is provided from the Keepit, Burrendong, Copeton and Glenlyon Dams and the Darling River. The rest is grown in Queensland, in the Emerald, Biloela, St George, and Darling Downs areas. Most of these areas are also irrigated. Australian production has for some time satisfied most of the requirements of local mills for short and medium staple cotton. Since the mid 1970s there has been very strong investment growth in the cotton industry and the resultant surge in plantings has resulted in large amounts of cotton becoming available for export.

COTTON: AREA, PRODUCTION AND EXPORTS

Year	Area	*Seed cotton (a)* Quantity	Gross value	Cotton-seed (b)	Lint (c)	*Raw cotton export* Quantity	Value f.o.b.
	'000 ha	'000 tonnes	$m	'000 tonnes	'000 tonnes	'000 tonnes	$m
1981–82	92.3	324.9	182.0	219.0	134.0	79.2	117.2
1982–83	96.4	285.6	167.5	164.0	101.0	129.2	197.6
1983–84	137.4	400.5	268.8	230.0	141.0	81.5	147.9
1984–85	183.1	679.4	330.2	410.4	248.7	139.7	259.6
1985–86	177.1	684.7	324.9	366.0	256.7	241.2	378.4
1986–87	156.0	612.0	372.5	418.0	212.7	250.8	344.7

(a) Before ginning. *(b)* Estimated by the Australian Bureau of Agricultural and Resource Economics. *(c)* Provided by the Raw Cotton Marketing Advisory Committee.

Sugar

Sugar cane is grown commercially in Australia along the east coast over a distance of some 2,100 kilometres in a number of discontinuous areas from Maclean in northern New South Wales to Mossman in Queensland. The geographical spread contributes to the overall reliability of the sugar cane crop and to Australia's record as a reliable sugar supplier.

Approximately 95 per cent of production occurs in Queensland, with some 75 per cent of the crop grown north of the Tropic of Capricorn in areas where rainfall is reliable and the warm, moist and sunny conditions are ideal for the growing of sugar cane. Farm sizes range between 20 and 70 hectares.

Australian cane farmers are regarded as amongst the most efficient in the world and employ a high degree of mechanisation in ploughing, planting, harvesting, and transportation activities. The Australian industry was the first in the world to introduce mechanical cultivation and harvesting techniques and by 1964 the entire industry had converted to bulk handling.

The cane crop is generally planted in April–May and harvested from June to December the following year. The major proportion of each year's crop is from ratoons while in

New South Wales most crops are allowed to grow for two seasons due to the slower growing conditions.

The organisation of the Australian sugar industry is complex. The Queensland Government controls the quantity of raw sugar produced through a system of mill peaks which is translated into cane quotas for growers. In addition the Queensland Government contracts with CSR Limited and Millaquin Sugar Company Pty Limited for the refining, marketing and distribution of home consumption needs, arranges through CSR Limited the export marketing of raw sugar, and regulates the division of industry proceeds between growers and millers.

There are 33 raw sugar mills located throughout the growing regions: 30 are located in Queensland and the remaining three in New South Wales. Fifteen of the mills are cooperatively owned by canegrowers and the remaining eighteen by proprietary companies. Refineries are located in each mainland capital city and at Bundaberg. The six bulk sugar export terminals located in Queensland are at present capable of storing 2.9 million tonnes. While raw sugar is the main product from mills, important by-products are bagasse (fibre), molasses, ash and filter mud.

In recent years sugar cane production has been around 24 million tonnes yielding between 2.8 and 3.3 million tonnes of sugar. Area, production and yield levels for sugar cane from 1981–82 to 1986–87 are provided in the following table.

SUGAR CANE: AREA, PRODUCTION AND YIELD

	New South Wales					*Queensland*				
	Sugar cane cut for crushing			*Raw sugar (a)*		*Sugar cane cut for crushing*			*Raw sugar (a)*	
Year	*Area harvested*	*Production*	*Yield*	*Quantity*	*Yield*	*Area harvested*	*Production*	*Yield*	*Quantity*	*Yield*
	'000 ha	'000 tonnes	t/ha	'000 tonnes	t/ha	'000 ha	'000 tonnes	t/ha	'000 tonnes	t/ha
1981–82	14.3	1,505.9	105.4	184.7	12.9	301.7	23,587.9	78.2	3,250.4	10.8
1982–83	16.0	1,702.3	106.5	175.9	11.0	302.5	23,114.8	76.4	3,324.2	11.0
1983–84	15.2	1,468.4	96.7	159.0	10.5	292.0	22,723.0	77.8	3,011.6	10.3
1984–85	14.9	1,540.5	103.6	198.9	13.4	297.8	23,910.0	80.3	3,349.2	11.2
1985–86	15.3	1,398.2	91.1	170.0	11.1	288.3	23,003.5	79.8	3,208.6	11.1
1986–87	24.0	1,276.0	93.2	n.y.a.	n.y.a.	287.0	23,466.0	81.8	n.y.a.	n.y.a.

(a) In terms of 94 net titre.

The domestic market is reserved entirely for sugar produced in Australia. This is achieved by an embargo on the import of sugar. The maximum price of refined sugar for sale to wholesalers and manufacturers is fixed each six months under a formula contained in the Commonwealth–Queensland Sugar Agreement.

Domestic sales account for about 760,000 tonnes annually or approximately 20 per cent of the total industry sales. Granulated sugars account for about 75 per cent of the total domestic sales with liquid sugars (15 per cent), castor sugar (5 per cent), and raw sugar taking up the bulk of the remainder. About two-thirds of the sales of refined sugar products go to processed food and drink manufacturers.

The Australian sugar industry exports about 75 per cent of its annual raw sugar production and is one of the world's largest sugar exporters. The disposal pattern of Australia's sugar production is shown in the following table.

SUGAR: AREA, PRODUCTION, EXPORTS AND CONSUMPTION

	Production				Exports		Apparent consumption in Australia (a)	
		Sugar cane		Raw sugar	Raw and refined sugar			
Year	Area harvested	Quantity	Gross value	Quantity	Quantity	Value f.o.b.	Total	Per head
	'000 ha	mil tonnes	$m	mil tonnes	mil tonnes	$m	'000 tonnes	kg
1981–82	315.9	25.1	590.2	3.4	2.5	777.7	710.7	47.2
1982–83	318.5	24.8	508.9	3.5	2.5	557.7	703.0	46.0
1983–84	307.1	24.2	516.6	3.2	2.4	621.3	679.5	43.9
1984–85	312.6	25.4	512.2	3.5	2.5	572.2	692.4	44.2
1985–86	380.0	24.3	494.2	3.4	2.7	613.2	714.1	45.0
1986–87	379.0	24.7	586.4	3.4	3.8	632.5	706.5	43.9

(a) Total quantity of sugar available for consumption in Australia comprises refined sugar and refined sugar contained in manufactured foods.

Australia has regularly participated in arrangements to regulate the international sugar market and was a signatory to the 1984 International Sugar Agreement (ISA). The Agreement is an administrative pact only, and unlike previous Agreements contains no economic provisions. This means that member countries are not constrained in their sugar exports.

Vegetables

Vegetables for human consumption

The area sown to vegetables reached a peak of over 200,000 hectares in 1945, but has remained static at around 109,000 hectares since 1975–76. However, yields from most vegetable crops have increased due to variety breeding for increased yields, greater use of irrigation and better control of disease and insect pests.

Because of the wide climatic range in Australia, supplies for main city markets are drawn from widely different areas, depending on the times of maturity of the various crops. Historically, market gardens were located near urban centres and, while many small scale growers still produce crops close to city markets, urban expansion, rising urban land values, improvements in transport and irrigation, and developments in freezing, canning and drying have extended the industry far from the cities. Transport costs are reduced by the location of processing establishments in producing areas, although city markets still absorb the bulk of fresh and porcessed produce.

For further information on vegetables *see Year Book* No. 70.

APPARENT CONSUMPTION OF VEGETABLES
(kilograms per capita per year)

Year	Potatoes	Other root and bulb vegetables	Tomatoes	Leafy and green vegetables	Other vegetables	Total, fresh equivalent weight
1981–82	57.6	18.7	16.7	20.8	17.1	130.8
1982–83	52.2	16.9	16.5	21.4	17.9	124.9
1983–84	62.6	17.4	18.6	21.9	18.3	138.8
1984–85	59.9	19.3	19.6	22.5	21.0	142.4
1985–86	57.7	18.9	16.9	22.8	20.0	136.2
1986–87	60.6	18.9	18.0	21.8	19.9	139.3

VEGETABLES FOR HUMAN CONSUMPTION: AREA AND PRODUCTION

Year	*French and runner beans*	*Cabbages*	*Carrots*	*Cauliflowers*	*Onions*	*Green peas*	*Potatoes*	*Tomatoes*	*Total vegetables*
AREA ('000 hectares)									
1981–82	7.1	(*a*)2.4	3.9	3.1	4.0	12.1	(*a*)36.1	9.1	106.7
1982–83	6.7	2.5	3.8	3.3	4.2	14.8	(*a*)37.4	8.7	110.3
1983–84	6.7	2.5	4.3	3.4	3.8	12.2	37.9	9.1	109.9
1984–85	6.3	2.4	4.6	3.6	4.4	11.4	38.4	9.3	111.0
1985–86	5.9	2.3	4.3	3.6	4.5	11.2	36.1	9.5	110.7
1986–87	5.9	2.9	4.6	3.7	4.3	11.7	36.7	8.6	111.3

						Green peas			
Year	*French and runner beans*	*Cabbages*	*Carrots*	*Cauliflowers*	*Onions*	*Processing (shelled weight)*	*Sold in pod (pod weight)*	*Potatoes*	*Tomatoes*
PRODUCTION ('000 tonnes)									
1981–82	(*a*)34.6	(*a*)71.0	112.5	85.4	127.4	38.4	1.7	(*a*)918.6	228.4
1982–83	33.5	67.2	105.0	76.5	129.0	46.0	1.9	858.5	224.1
1983–84	32.3	72.3	124.3	84.4	115.9	44.0	2.1	1,019.8	258.3
1984–85	31.1	69.5	130.6	101.1	151.7	41.8	2.1	992.1	270.5
1985–86	31.3	69.1	127.6	103.8	159.7	39.7	1.5	964.9	252.6
1986–87	29.4	82.9	146.0	91.6	164.7	33.4	1.2	1,015.2	266.0

(*a*) Incomplete, information on this commodity was not separately collected in some States.

For further information on vegetables *see* the following publications: *Crops and Pastures, Australia* (7321.0), *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) *Value of Agricultural Commodities Produced, Australia* (7503.0), and *Year Book* No. 70.

Fruit (Excluding Grapes)

A wide variety of fruit is grown in Australia ranging from pineapples, mangoes and papaws in the tropics to pome, stone and berry fruits in the temperate regions.

In recent years there has been rapid expansion in the cultivation of many relatively new fruit crops in Australia and there is considerable scope for continued growth in the future.

Avocado is perhaps the most commonly known of these crops and production has expanded considerably during the past decade to a current gross value of over $10 million. Avocado production is mainly in Queensland and New South Wales with minor quantities produced in Western Australia, South Australia and Victoria.

Kiwifruit is a relatively new temperate fruit crop to Australia. Production has been expanding rapidly mainly in Victoria and New South Wales and further expansion is expected. Of the berry fruits, strawberries are widely grown, with largest production in Victoria and Queensland. Interest in the production of blueberries in Australia has developed only recently and plantings of blueberries have increased rapidly mainly in Victoria and New South Wales. Other berries (currants and raspberries) are grown predominantly in Tasmania and production has been reasonably constant over the past five years.

Tropical fruit such as mangoes, papaws, passionfruit, custard apples and guavas, are grown mainly in Queensland. Smaller quantities of tropical fruit are produced in the north coast region of New South Wales, Western Australia and more recently the Northern Territory. The largest expansion has been of mango production which has more than doubled since

1979. Given the large number of non-bearing mango trees, production is expected to continue to increase dramatically. There is also considerable interest in many other exotic tropical and subtropical fruits. Production of lychees and persimmons has recently commenced and some plantings of rambutan, sapote and longans have been made, mainly in Queensland and the north coast region of New South Wales.

Almond is still the major nut crop in Australia with almost the entire almond crop produced in South Australia and Victoria. Pecan nut production increased substantially in the 1970s, mainly in northern New South Wales. More recently plantings of pistachio trees have commenced in South Australia, Victoria, New South Wales and Western Australia. The major expansion in the nut crops has been with macadamias, a native Australian tree. The main growing regions are the coastal region of northern New South Wales and southern Queensland. During the past decade production of macadamia nuts has increased rapidly to a current gross value of about $4 million.

SELECTED FRUIT STATISTICS

	Orchard fruit: number of trees ('000)				*Tropical and other fruits: area (ha)*			
Year	*Apples*	*Oranges*	*Pears*	*Peaches*	*Bananas*	*Pineapples*	*Other fruit*	*Total area of fruit (ha)*
1981–82	6,065	6,055	1,703	1,669	8,740	6,373	1,738	102,068
1982–83	6,098	6,219	1,556	1,642	9,040	6,010	1,774	104,325
1983–84	6,066	6,397	1,584	1,646	9,282	6,011	2,085	107,534
1984–85	6,147	6,657	1,548	1,696	9,205	6,268	2,272	109,095
1985–86	6,397	6,777	1,592	1,793	9,640	6,325	2,432	112,655
1986–87	6,350	6,897	1,552	1,797	9,391	3,762	1,245	107,492

Year	*Apples*	*Apricots*	*Bananas*	*Cherries*	*Oranges*	*Peaches*	*Pears*	*Pine-apples*	*Plums and prunes*
				PRODUCTION ('000 tonnes)					
1981–82	294.5	27.1	129.6	5.4	376.3	64.6	109.7	125.5	16.4
1982–83	300.8	26.9	140.5	4.2	410.0	63.0	119.2	111.3	20.6
1983–84	267.0	23.6	146.4	3.5	391.8	48.3	122.1	115.1	20.0
1984–85	352.0	24.5	144.8	3.8	445.0	59.8	138.5	124.5	20.6
1985–86	292.1	29.6	134.4	3.9	496.2	61.4	142.9	131.6	21.7
1986–87	325.0	27.0	157.7	4.0	504.0	61.1	145.0	142.3	22.0
				GROSS VALUE OF PRODUCTION ($ million)					
1981–82	124.2	18.1	61.4	13.2	89.6	23.0	30.8	20.5	11.2
1982–83	132.4	18.3	70.1	7.9	101.0	21.3	41.9	25.4	16.9
1983–84	134.1	17.6	86.8	8.7	105.3	25.4	45.9	26.2	17.5
1984–85	178.3	19.7	93.2	10.8	131.9	28.3	50.7	33.5	19.8
1985–86	139.0	24.5	101.7	9.5	132.5	29.3	63.7	32.6	23.5
1986–87	204.5	25.5	126.7	11.9	126.1	40.9	76.8	42.0	25.2

Processed fruit and fruit products

After rapid expansion in the 1960s, output of canned fruit declined and then levelled off due to the effects of contracting overseas markets for Australian canned fruit. Production of natural fruit juices has increased markedly in the last decade and this has reflected improvements in marketing methods, effective promotion and public awareness of the nutritional value of natural juices.

FRUIT PRODUCTS
(Derived from the Annual Manufacturing Census and the recorded monthly production)

	Unit	*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Fruit juice based cordials and syrups *(a)*	ML	80.4	78.7	86.5	96.1	94.5	99.2
Natural fruit juice *(b)*—							
Single strength	ML	186.5	201.1	214.1	317.7	n.y.a.	225.7
Concentrated *(c)*	ML	27.3	32.6	26.5	43.6	n.y.a.	225.7
Cider and perry	ML	19.0	18.4	*(d)*9.4	*(d)*9.8	n.y.a.	225.7
Canned or bottled fruit (excl. canned pulp)	'000 tonnes	146.7	157.6	152.0	186.2	179.2	185.3
Jams	'000 tonnes	32.6	29.3	30.3	29.8	29.5	30.4

(a) Containing at least 25 per cent by volume of pure fruit juices. *(b)* Excludes fruit drinks consisting of diluted fruit juices with or without artificial flavourings. *(c)* Excludes grape must, and comprises actual quantity of concentrated juices. *(d)* Excludes alcoholic cider and perry.

APPARENT CONSUMPTION OF FRUIT AND FRUIT PRODUCTS
(kg per capita per year)

	Fresh						
Year	*Oranges*	*Other citrus*	*Other fresh fruit*	*Jams, conserves, etc.*	*Dried tree fruit*	*Processed fruit*	*Total, fresh equivalent weight*
1981–82	29.5	6.9	37.8	1.8	0.5	10.3	97.4
1982–83	41.4	6.4	39.6	1.8	0.6	9.4	110.6
1983–84	43.4	7.7	38.1	1.8	0.7	9.8	113.3
1984–85	37.8	7.5	41.4	2.1	0.6	11.1	114.6
1985–86	33.7	7.1	42.1	1.9	0.6	8.0	106.9
1986–87	33.3	7.3	40.6	1.9	0.5	7.8	106.4

Fruit exports

The value of exports of fruit and fruit products (excluding grapes) has in most recent years accounted for more than a quarter of the value of the production of fresh fruit. Fresh or chilled fruit (mostly apples, pears and citrus) account for some 40 per cent of this; preserved fruit (mostly canned pears and peaches) make up most of the remainder; only small quantities of dried fruits (other than grapes) are exported. The total value of those exports has been relatively constant in recent years.

FRUIT EXPORTS: VALUE F.O.B.
($ million)

	Fresh and chilled			*Canned or bottled*					
Year	*Apples*	*Pears*	*Oranges*	*Apricots*	*Peaches*	*Pears*	*Peaches and pears*	*Pine-apples*	*Fruit salad*
1981–82	19.0	13.7	8.9	1.0	15.4	13.7	2.1	3.6	7.5
1982–83	15.7	17.8	12.6	1.1	13.8	16.5	2.4	2.2	9.8
1983–84	13.7	15.9	9.4	1.2	13.4	10.9	1.8	2.5	10.7
1984–85	12.0	21.3	14.4	0.4	12.1	17.9	1.4	3.9	10.2
1985–86	17.7	28.5	18.9	0.8	19.3	17.8	1.9	5.2	14.6
1986–87	21.9	34.6	27.0	1.1	24.3	29.5	1.7	6.0	22.1

Fresh apple exports to Europe have been markedly reduced in recent years mainly because of rising shipping costs and improved storage techniques in Europe. On the other hand, markets in other areas such as South-East Asia and the Middle East have been maintained in most years. Fresh pear exports to Europe have also declined but not to the same extent as apples. Other export markets for pears, such as South–East Asia, have gained importance in recent years. Exports of citrus, predominantly oranges, were relatively steady at around 30,000 tonnes for the five years to 1984–85 but increased rapidly to an estimated 50,000 tonnes in 1986–87. Citrus exports are sensitive to competition from the United States. Exports of oranges were made to Japan for the first time in 1983–84, and sales in subsequent years have been steadily expanding. The Australian industry believes there is a potentially very important trade with Japan.

FRUIT: VALUE OF PRODUCTION AND EXPORTS
($ million)

	Gross value			
Year	*Orchard fruit*	*Tropical, berry and other*	*Total*	*Exports (a) value f.o.b.*
1981–82	365	99	464	122
1982–83	396	113	509	135
1983–84	418	135	552	117
1984–85	522	149	671	152
1985–86	518	161	679	196
1986–87	634	203	837	242

(a) Fruit and nuts, excluding grapes (fresh and dried); includes fresh, dried and preserved and fruit preparations.

Fruit imports

Small but increasing quantities of fresh fruit, mainly off-season citrus from the United States, are imported, while most imports of dried fruit consist of dates from China and Pakistan and dried apricots from Turkey. Imports of orange juice increased to a peak of 106 million litres in 1983–84, but have since declined to 55 million litres in 1985–86.

Marketing and regulation of the fruit industry

Apples and pears

The Australian Apple and Pear Corporation has the function of promoting and controlling the export of Australian apples and pears as well as the promotion of trade and commerce in apples and pears within Australia. It also has power to promote, or engage in, research relating to the production, packaging, handling, transportation or marketing of apples and pears and to promote new apple and pear products.

The current underwriting schemes for export apples and pears terminate at the end of the 1990 export season. Under the schemes, the government guarantees a minimum export return separately for 'at risk' and forward sales of apples and pears which is equal to 85 per cent of the average export returns in the last three of the previous four years. If the average export return for any of the four categories of exports should fall below the bigger price in any year, the government will make up the difference without limit.

Canned fruit

On 29 November 1979 the Commonwealth enacted legislation restructuring the industry's marketing arrangements. Similar complementary legislation has been enacted by the four States of New South Wales, Victoria, South Australia and Queensland.

Under the legislation, the Australian Canned Fruits Corporation (replacing the Australian Canned Fruits Board) is empowered to acquire and sell the production of canned apricots, peaches and pears and is responsible for determining prices, terms and conditions for sales in both Australian and export markets. Sales are made through markets nominated by canners and approved by the Corporation. Markets are classified as Pool and Non-Pool with returns from Pool markets equalised by the Corporation. Entitlements for sales in Pool markets are allocated to canners prior to the start of each season.

The Corporation's administrative expenses are financed by a levy imposed on the production of canned fruits under the *Canned Fruits Levy Act 1979*.

The Corporation is advised in the performance of its functions by the Australian Canned Fruits Industry Advisory Committee.

In October 1984, the operation of the Australian Canned Fruits Corporation (ACFC) was extended for a further three years to the end of 1987. A more commercially orientated and flexible corporation was achieved with the expansion of the Corporation's board to make it more effective in its commercial operations, more accountable to industry and government and more capable of achieving its objective of improving returns to growers.

For further data on fruits and fruit products *see* the publications *Fruit, Australia* (7322.0), *Production Bulletin No. 3: Food, Drink and Tobacco, Australia* (8359.0), *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) and *Value of Agricultural Commodities Produced, Australia* (7503.0)

Grapes

Grapes are a temperate crop which require warm to hot summer conditions for ripening and predominantly winter rainfall. Freedom from late spring frosts is essential. They are grown for wine-making, drying and, to a lesser extent, for table use. Some of the better known wine producing areas are the Barossa, Clare, Riverland, Southern Districts and Coonawarra (SA); North-Eastern Victoria and Great Western (Vic.); Hunter and Riverina (NSW); Sunraysia (NSW and Vic.); Swan Valley and Margaret River (WA).

Nearly all the dried fruit is produced along the River Murray and its tributaries in Victoria and New South Wales with small localised areas in other States.

VITICULTURAL STATISTICS: AREA, PRODUCTION AND VALUE

	Area		*Productions: grapes used for—*			
					Total (a)	
Year	*Bearing*	*Total*	*Winemaking*	*Drying*	*Quantity*	*Gross value*
	'000 ha	'000 ha	'000 tonnes fresh weight	'000 tonnes fresh weight	'000 tonnes fresh weight	$m
1981–82	63.7	68.4	499.9	361.7	884.9	222.8
1982–83	61.9	66.5	431.3	310.3	768.1	212.5
1983–84	60.2	64.5	495.1	320.0	840.9	217.0
1984–85	59.9	64.0	559.0	296.8	889.6	259.4
1985–86	60.0	63.8	509.9	358.8	906.6	270.0
1986–87	54.0	57.0	477.0	262.3	782.6	272.2

(a) Includes grapes used for table and other purposes.

Multipurpose grapes are used predominantly for winemaking and drying, the latter process being particularly suspectible to adverse seasonal conditions. A serious oversupply of dried vine fruit existed on world markets in 1983 and 1984, however the situation has improved since 1985 as a consequence of reduced production from northern hemisphere suppliers in late 1984. Australian exporters have made significant sales on international markets. The Australian Dried Fruits Corporation is the body responsible for the organisation of the export trade in dried vine fruits. The Corporation also administers the statutory Dried Vine Fruits Equalisation Scheme and the Dried Sultana Production Underwriting Scheme. Both these schemes were restructured by the government in 1985 following an inquiry into the dried vine fruits industry by the Industries Assistance Commission. The Government's objective was to make the industry more responsive to market signals. Until 1983, imports of dried vine fruit had been largely insignificant. However, since that time significant imports have occurred each year, the major sources being Greece and the United States. The Australian industry has demonstrated injury from subsidised imports from Greece and countervailing measures have been implemented.

Varietal statistics: 1987 season

VITICULTURE: AREA AND PRODUCTION BY VARIETY, 1987 SEASON (a)

	Area of vines at harvest				*Production*			
				Grubbings (actual and/or intended)	*Grapes used for—*			
	Bearing	*Not yet bearing*	*All vines*		*Wine-making*	*Drying*	*Other*	*Total*
Red grapes—								
Cabernet Sauvignon	3,249	218	3,466	51	24,676	—	—	24,676
Currant (incl. Carina)	1,362	106	1,467	45	5	18,078	14	18,097
Grenache	2,321	9	2,330	185	30,686	—	61	30,747
Mataro	703	1	703	66	9,952	—	17	9,968
Pinot Noir	448	221	669	1	3,162	—	—	3,162
Shiraz	4,955	48	5,003	262	48,873	—	34	48,907
Other red grapes	1,021	245	1,266	22	8,252	49	1,852	10,153
Total red grapes	*15,819*	*1,096*	*16,915*	*749*	*128,525*	*18,126*	*10,845*	*157,496*
White grapes—								
Chardonnay	2,102	523	2,625	7	18,594	—	—	18,594
Doradillo	1,145	11	1,156	74	29,138	62	30	29,230
Muscat Blanc	457	57	514	24	5,597	—	45	5,642
Muscat Gordo Blanco	3,942	236	4,179	96	76,654	17,032	408	94,094
Palomino and Pedro Ximenes	1,478	14	1,492	122	25,595	—	12	25,606
Rhine Riesling	3,702	67	3,769	113	40,005	—	20	40,025
Semillon	2,477	146	2,623	39	36,636	—	—	36,636
Sultana	15,941	402	16,343	405	40,407	219,639	23,366	283,412
Waltham Cross	1,282	29	1,311	115	2,295	8,618	4,258	15,171
Other white grapes	603	73	676	44	7,940	52	644	8,636
Total white grapes	*38,252*	*2,014*	*40,266*	*1,252*	*350,251*	*245,462*	*32,558*	*628,271*
Total grapes	**54,071**	**3,110**	**57,181**	**2,001**	**478,776**	**263,588**	**43,403**	**785,767**

(a) Varietal data not collected in Northern Territory and the Australian Capital Territory.

DRIED VINE FRUIT: PRODUCTION, EXPORTS AND CONSUMPTION
(dried weight)

	Production				*Exports*				
							Total		*Consumption of dried vine fruit*
Year	*Raisins*	*Sultanas*	*Currants*	*Total*	*Raisins/ sultanas*	*Currants*	*Quantity*	*Value f.o.b.*	
	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	$m	kg
1981–82	5.8	78.5	5.9	90.2	38.5	0.8	39.4	49.5	1.8
1982–83	3.9	64.9	4.7	73.4	57.1	2.4	59.5	59.7	1.9
1983–84	1.4	69.0	4.6	75.0	51.6	0.9	52.5	54.1	1.7
1984–85	2.1	60.1	5.7	67.8	61.5	1.0	62.4	58.0	2.3
1985–86	5.2	72.9	6.3	84.4	48.4	2.9	51.3	71.3	2.3
1986–87	1.9	58.8	5.2	65.9	54.5	2.3	56.8	96.5	1.9

Wine industry

Australia produces a wide range of wine and brandy products. Over the past twenty years there has been a distinct trend towards greater production and consumption of unfortified or table wines. In the twelve months ending June 1987 sales of table wine accounted for nearly 78 per cent of all sales of Australian wine. The large growth in table wine sales has been principally due to the successful marketing of wine in 'casks' (usually fibreboard, box-shaped, 4 litre containers equipped with dispensing faucets).

While imports of wine are relatively insignificant (2.2 per cent of the apparent domestic market), exports are becoming increasingly important and now account for 6.5 per cent of production. Legislation reconstructing the Australian Wine and Brandy Corporation as the body responsible for the control of the export trade in wine, brandy and grape spirit products was enacted in June 1986. The Corporation has the power to regulate exports as well as organise promotion and publicity functions in export markets and in Australia.

PRODUCTION, CONSUMPTION AND EXPORT OF WINES

Year	*Production*	*Exports*		*Consumption in Australia per capita*
		Quantity	*Value f.o.b.*	
	mil. litres	mil. litres	$m	litres
1981–82	402.7	8.4	14.0	19.1
1982–83	340.1	8.0	13.4	19.7
1983–84	396.2	9.0	16.8	20.4
1984–85	451.2	8.8	17.4	21.3
1985–86	389.2	10.9	21.3	21.6
1986–87	371.6	21.2	44.6	21.0

For further details on viticulture, dried vine fruit, wine, etc. *see* the following publications: *Fruit, Australia* (7322.0), *Sales and Stocks of Australian Wine and Brandy* (8504.0) and *Viticulture, Australia* (7310.0).

Miscellaneous Crops

The principal crops not covered above include fodder crops, tobacco, hops and mushrooms which in 1986–87 had gross values as follows:

Crops	*Gross value*	*Per cent of total crop gross value*
	$m	%
Fodder crops (hay)	79.1	1.0
Lupins	135.9	1.8
Tobacco	65.0	0.8
Hops	8.1	0.1
Mushrooms	50.7	0.7
Other (incl. nurseries)	585.0	7.6

Fodder crops

As well as crops specifically for grain, considerable areas of Australia are devoted to fodder crops. These crops are utilised either for grazing (as green feed), or conserved as hay, ensilage, etc.

This development of fodder conservation as a means of supplementing pasture and natural sources of stockfeed is the result of the seasonal and comparatively unreliable nature of rainfall in Australian agricultural areas.

FODDER CROPS: AREA AND PRODUCTION

	Hay (a)			*Green feed or silage (b)*	
		Production			
Year	*Area*	*Quantity*	*Gross value*	*Area*	*Silage made*
	'000 ha	'000 tonnes	$m	'000 ha	'000 tonnes
1981–82	380	1,043	77.1	936	413
1982–83	408	907	100.6	1,292	301
1983–84	377	1,269	99.5	896	698
1984–85	258	848	60.3	876	502
1985–86	252	773	64.5	1,005	620
1986–87	306	942	72.9	1,191	679

(a) Principally oaten and wheaten hay. *(b)* Principally from oats, barley, wheat and forage sorghum.

Lupins

Lupins are grown primarily as a grain crop, but grazing of standing crops and stubble is also an important use. Because of their high protein content, lupins are becoming increasingly important in livestock feed and for human consumption, particularly in some of the Asian countries.

There has been a significant expansion of lupin production in recent years, particularly in Western Australia which is the major producer and exporter of lupins. Smaller quantities are also grown in New South Wales, Victoria and South Australia mainly for domestic use.

FARMSTOCKS OF CEREAL GRAINS, HAY AND SILAGE
('000 tonnes)

	Cereal grains				
At 31 March	*Barley*	*Oats*	*Wheat*	*Hay*	*Silage*
1982	628	1,356	832	4,941	502
1983	506	711	970	2,983	333
1984	627	1,705	1,021	6,789	642
1985	684	1,479	910	5,872	697
1986	872	1,403	1,185	5,555	851
1987	729	1,406	1,045	5,783	817

Tobacco

Tobacco is a summer-growing annual which requires a temperate to tropical climate, adequate soil moisture and a frost-free period of approximately five months. In Australia, all tobacco is grown under irrigation. Because of specialised requirements, production is limited to areas with suitable soils and climate. The main centres of production are the Mareeba–Dimbulah districts of north Queensland and Myrtleford in north-eastern Victoria. Other areas where tobacco is grown include Bundaberg, Beerwah and Texas (Queensland) and Yetman and Coraki (New South Wales). All tobacco grown in Australia is of the flue-cured type except for small quantities of burley tobacco produced mainly in Victoria.

TOBACCO: AREA, PRODUCTION AND OVERSEAS TRADE

			Exports (value f.o.b.)		*Imports (value)*	
Year	*Area*	*Production (dried leaf)*	*Unmanufactured*	*Manufactured*	*Unmanufactured*	*Manufactured*
	'000 ha	'000 tonnes	$'000	$'000	$'000	$'000
1981–82	6.6	13.3	2,080	8,551	46,268	23,187
1982–83	6.7	13.4	4,835	9,667	52,916	30,420
1983–84	6.5	14.4	2,434	12,172	58,939	31,425
1984–85	5.4	12.5	110	14,545	59,789	27,692
1985–86	4.7	10.7	158	15,021	64,495	33,197
1986–87	5.1	12.2	149	17,157	82,523	33,617

Marketing

In 1965 the Commonwealth and State Governments agreed to a stabilisation plan which provided for an annual Australian tobacco leaf marketing quota of flue-cured tobacco and a guaranteed minimum average reserve price. The plan is administered by the Australian Tobacco Board, consitituted under the *Tobacco Marketing Act 1965*, and is composed of representatives of the Commonwealth Government, tobacco-growing States, growers and manufacturers.

Following a review by the Industries Assistance Commission of the tobacco industry in 1982, the Government announced a new 5-year stabilisation scheme which began in 1984. The new scheme is designed to rationalise marketing arrangements in the industry. The scheme provides that the annual tobacco leaf quotas are adjusted in line with consumption, that manufacturers' stocks are reduced to a level equivalent to 13 months' consumption by 1988, and that prices be adjusted so as to significantly reduce the gap between Australian and world prices by 1990.

Hops

Hops are grown from perennial rootstocks over deep, well-drained soils in localities sheltered from the wind. The hop-bearing vine shoots are carried upon trellises, from which they are later harvested. The green hops are kiln-dried and baled on the farm. The dried hops can be further processed at centralised processing establishments into pellets, extract or high density packs. The pelleted form constitutes the bulk of the exported hops.

The area planted to hops in Australia is about 1,300 hectares. About 65 per cent of plantings are in Tasmania (confined to the Derwent, Huon and Channel areas in the south-east, the Scottsdale–Ringarooma district in the north-east, and the Gunn Plains in the north-west of the State). The other hop producing areas are the Ovens and King Valleys in Victoria and a small area near Manjimup in Western Australia.

Australian hop production is about 2,600 tonnes, approximately 70 per cent of which is used by domestic breweries, with the remainder being exported.

Mushrooms

Statistics of mushroom growing were collected for the first time in all States for the year ended 30 June 1975.

MUSHROOMS: AREA, PRODUCTION, GROSS VALUE AND IMPORTS

		Total production			*Imports*			
					Dried		*Canned or bottled*	
Year	*Area*	*Quantity*	*Gross value*	*Canned or bottled production*	*Quantity*	*Value f.o.b.*	*Quantity*	*Value f.o.b.*
	hectares	tonnes	$m	tonnes	tonnes	$'000	'000 litres	$'000
1981–82	57	9,382	21.7	4,776	120	1,478	6,413	8,454
1982–83	65	10,266	27.1	n.p.	58	895	5,845	8,447
1983–84	69	11,036	29.4	n.p.	94	1,447	4,760	7,218
1984–85	76	12,857	36.7	n.p.	92	1,449	4,426	8,278
1985–86	70	13,026	43.8	n.p.	81	1,669	3,201	6,426
1986–87	76	15,203	50.7	n.p.	76	1,742	5,180	9,238

Jojoba

Jojoba is an arid zone perennial shrub native to the Sonoran Desert in the United States and Mexico where it has a reputation for its ability to survive and grow under extremely adverse conditions. About 50 per cent of seed weight consists of a high quality liquid wax suitable for a wide range of industrial applications.

Attempts are being made to establish a jojoba growing and processing industry in Australia using wild, unimproved planting material. Research in this country has investigated the environmental factors controlling flowering and fruit growth, the physiological basis of jojoba's adaptation to moisture and temperature extremes, and the sites with the best potential to support an industry.

The future development of a jojoba industry depends upon the use of improved, high-yielding plant lines and the selection of the best plantation sites. Although there are many proposed uses for the wax, future market size and price structure are unknown.

Livestock

Since 1861, annual enumerations of livestock have been made, based with few exceptions on actual collections made through the agency of the State police or by post. Particulars concerning the numbers of each of the principal kinds of livestock in Australia at ten-yearly intervals from 1861 to 1971, and then from 1981 on by single years, are given in the following table.

LIVESTOCK, AUSTRALIA
('000)

Year	*Cattle*	*Sheep*	*Pigs*	*Year*	*Cattle*	*Sheep*	*Pigs*
1861	3,958	20,135	351	1951	15,229	115,596	1,134
1871	4,276	41,594	543	1961	17,332	152,679	1,615
1881	7,527	62,184	816	1971	24,373	177,792	2,590
1891	10,300	97,881	891	1981	25,168	134,407	2,430
1901	8,640	70,603	950	1982	24,553	137,976	2,373
1911	11,745	98,066	1,026	1983	22,478	133,237	2,490
1921	13,500	81,796	674	1984	22,161	139,242	2,527
1931	11,721	110,568	1,072	1985	22,738	149,747	2,512
1941	13,256	122,694	1,797	1986	23,436	155,561	2,553
				1987	21,915	149,157	2,611

While livestock numbers (particularly sheep) have increased substantially since 1861, marked fluctuations have taken place during the period, mainly on account of widespread droughts which have from time to time left their impressions on the pastoral history of Australia.

Australia has suffered ten major widespread droughts since the keeping of rainfall records began:

1864–1866	All States were affected except Tasmania.
1880–1886	Southern and eastern mainland States were affected.
1888	All States were hit except Western Australia.
1895–1903	This drought, one of the worst on record, halved Australia's sheep population (originally 100 million) and cut cattle numbers (12 million) by 40 per cent.
1911–1916	Wheat crops were affected in most States, sheep numbers declined by 19 million and cattle by 2 million.
1918–1920	During this period, parts of Western Australia were the only areas completely free from drought.
1939–1945	This prolonged drought affected crops and/or pastoral areas in all States. Sheep numbers fell from 125 million in 1942 to 96 million in 1945.
1965–1967	This drought, in its impact on Queensland, New South Wales and Victoria, ranked with the 1902 drought as one of the most severe on record. It resulted in a 40 per cent drop in the wheat harvest, a loss of 20 million sheep, and a decrease in farm income of $300–500 million. There was a chain reaction to other industries, with heavy losses being suffered by manufacturers of farm machinery and the New South Wales Railways. Effects of the drought were worsened by water rationing in irrigation areas.
1972	Widespread drought occurred throughout Australia.

Much of eastern Australia experienced one of the worst droughts on record in 1982 and early 1983. Widespread and soaking rains during the autumn months of 1983 greatly alleviated the situation and most areas received further good rains during 1983–84. However, 1985 saw the return of light and variable rainfall conditions. In July 1985, much of New South Wales and western Queensland had again been drought declared and regional areas of concern were notified in western Victoria, parts of South Australia and Western Australia, and much of the Northern Territory. Good rains during August 1985 relieved much of this problem.

For further details of droughts in Australia *see* the special article at the end of Chapter 16 in *Year Book* No. 71.

The years in which the numbers of livestock attained their peaks are as follows: cattle, 1976 (33,434,000); sheep, 1970 (180,080,000); and pigs, 1973 (3,259,000).

Cattle

Cattle-raising is carried out in all States, the main object in certain districts being the production of stock suitable for slaughtering purposes and in others the raising of dairy herds. While dairy cattle are restricted mainly to southern and to coastal districts, beef cattle are more widely distributed. Cattle numbers in Australia increased slowly during the 1960's and 1970s, despite seasonal changes and heavy slaughterings, to a peak of 33.4 million in 1976. There was a continuous decline, aggravated by drought conditions, to 22.2 million in 1984. Improved seasonal conditions and higher export prices in 1984 encouraged producers to commence rebuilding herds and numbers increased to 23.4 million in 1986.

Beef cattle production is often combined with cropping, dairying and sheep. In the north (north of the 26th parallel), cattle properties and herd size are very large, pastures are generally inimproved, fodder crops are rare and beef is usually the only product. The industry is more intensive in the south because of the more favourable environment including more improved pasture.

For futher details on cattle, *see Livestock and Livestock Products, Australia* (7221.0).

CATTLE NUMBERS
('000)

31 March	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Aust. (incl. ACT)*
1982	5,429	4,121	9,782	1,013	1,942	628	1,624	24,553
1983	5,018	3,408	9,349	828	1,754	562	1,548	22,478
1984	5,036	3,487	9,154	813	1,730	542	1,390	22,161
1985	5,226	3,576	9,413	846	1,673	554	1,484	22,784
1986	5,409	3,720	9,662	914	1,690	570	1,458	23,436
1987	4,868	3,478	9,012	912	1,659	535	1,439	21,915

CATTLE NUMBERS, BY AGE, SEX, PURPOSE
('000)

	31 March—					
Classification	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*
Milk cattle—						
Bulls used or intended for service	49	47	46	45	43	37
Cows, heifers and heifer calves	2,661	2,642	2,693	2,697	2,655	2,561
House cows and heifers	73	69	66	63	61	41
Total	*2,783*	*2,757*	*2,805*	*2,806*	*2,759*	*2,639*
Meat cattle—						
Bulls used or intended for service	527	499	498	524	554	513
Cows and heifers (1 year and over)	11,032	9,929	9,964	10,274	10,626	9,795
Calves under 1 year	5,023	4,644	4,455	4,897	5,010	4,738
Other cattle (1 year and over)	5,188	4,649	4,438	4,282	4,487	4,230
Total	*21,770*	*19,721*	*19,356*	*19,978*	*20,678*	*19,276*
Total, all cattle	**24,553**	**22,478**	**22,161**	**22,784**	**23,436**	**21,915**

Sheep

With the exception of a short period in the early 1860s, when the flocks in Victoria outnumbered those of New South Wales, the latter State has occupied the premier position in sheep raising. Western Australia is the second largest sheep raising State, followed by Victoria. Sheep numbers reached a peak of 180.0 million in Australia in 1970. They then declined rapidly up to March 1973 as producers turned off large numbers for slaughter and moved from wool-growing towards grain and beef production. By 1975, the numbers had again increased to 151.7 million, but in March 1978 the numbers had fallen to 131.4 million, the lowest since 1955. Improved seasonal conditions during 1978 and 1979 enabled producers to begin rebuilding their flocks. By March 1980, numbers had risen to 136.0 million. Subsequently, high levels of drought-induced slaughter led to a decline in numbers to 134.4 million by March 1981. Numbers rose to 138.0 million in March 1982 with improved seasonal conditions and the attractiveness of sheep enterprises relative to cattle contributing to the growth in numbers. Subsequently, drought conditions saw the flock reduce to 133.2 million in March 1983. The increase in flock numbers to 139.2 million in March 1984 reflects flock rebuilding by producers in response to favourable seasonal conditions beginning in the autumn of 1983, improved lambing rates, and a favourable outlook for wool and live sheep enterprises. This trend continued and, in March 1986, flock numbers reached 155.6 million.

SHEEP NUMBERS
(millions)

31 March	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust. (incl. NT, ACT)*
1982	48.7	25.3	12.3	16.7	30.3	4.5	138.0
1983	48.1	22.7	12.2	15.4	30.2	4.5	133.2
1984	51.0	24.6	13.0	16.4	29.5	4.6	139.2
1985	55.5	26.5	14.0	17.3	31.6	4.8	149.7
1986	58.0	26.9	14.3	17.9	33.2	5.1	155.6
1987	52.2	26.6	14.6	17.2	33.5	5.0	149.2

SHEEP, BY AGE AND SEX
(millions)

	Sheep: 1 year and over					
31 March	*Rams*	*Breeding ewes*	*Other ewes*	*Wethers*	*Lambs and hoggets (under 1 year)*	*Total, sheep and lambs*
1982	1.8	68.5	4.8	30.5	32.4	138.0
1983	1.7	65.6	5.5	28.8	31.6	133.2
1984	1.7	70.3	4.9	30.5	31.8	139.2
1985	1.8	71.0	5.4	33.3	38.3	149.7
1986	1.8	72.1	6.6	38.7	36.3	155.6
1987	1.7	72.1	4.2	37.5	33.6	149.2

The combined value of wool and sheep slaughtered during 1985–86 is estimated at 20.5 per cent of the gross value of agricultural commodities. This proportion varies with wool and meat prices and seasonal conditions. Australia has about 20 per cent of the world's woolled sheep but produces around 25 per cent of the world's greasy wool output. In addition, in the year ended 30 June 1986 the sheep industry produced 578,000 tonnes of mutton and lamb. Exports of live sheep for slaughter during the same period totalled 6.4 million head, with Kuwait and Saudi Arabia accounting for 61 per cent of the total.

SHEEP AND LAMBS: ANALYSIS OF MOVEMENT IN NUMBERS
(millions)

Year ended 31 March	*Season*	*Number at beginning of season*	*Lambs marked*	*Live sheep exports*	*Sheep and lambs slaughtered (a)*	*Estimated deaths on farms (b)*	*Number at end of season*
1982	1981–82	134.4	44.8	6.3	28.3	6.6	138.0
1983	1982–83	138.0	45.4	6.2	30.8	13.1	133.2
1984	1983–84	133.2	44.5	6.6	25.0	6.8	139.2
1985	1984–85	139.2	51.9	6.3	27.2	7.9	149.7
1986	1985–86	149.7	49.8	6.8	31.5	5.7	155.6
1987	1986–87	155.6	48.3	7.1	32.5	5.2	159.1

(a) Comprises statistics from abattoirs and other major slaughtering establishments and includes estimates of animals slaughtered on farms and by country butchers; also includes animals condemned or those killed for boiling down. *(b)* Balance item.

LAMBING

Year ended 31 March	*Season*	*Number of breeding ewes at start of season*	*Mating intentions at start of season*	*Actual matings*	*Ratio of actual matings to intended matings*	*Lambs marked*	*Ratio of lambs marked to actual matings*	*Ratio of lambs marked to breeding ewes*
		million	million	million	%	million	%	%
1982	1981–82	66.9	61.9	60.5	98	44.8	74	67
1983	1982–83	68.5	64.6	60.9	94	45.4	74	66
1984	1983–84	65.6	58.9	58.5	99	44.5	76	68
1985	1984–85	70.3	65.9	63.5	96	51.9	82	74
1986	1985–86	71.0	65.3	62.8	96	49.8	79	70
1987	1986–87	68.0	64.3	60.8	95	47.3	78	69

Pigs

Over the past 30 years there have been significant changes to the structure of the Australian pig industry. Initially, pigs were raised as part of a dairying operation where there were abundant supplies of liquid skim milk. Today, however, with introduction of factory separation of milk and cream, coupled with the low grain prices of the 1960s, pig raising has become more and more associated with grain production.

In addition there has been a major move away from the so called extensive method of pig raising to the intensive conditions that' apply today. This has meant an increase in the capital investment in the industry and a greater degree of specialisation in pig raising. The average pig production unit today would be based on approximately 300 sows with feeds being almost exclusively grain based. While the number of sows in Australia has remained fairly constant the number of pig farmers has decreased.

PIGS NUMBERS
('000)

31 March	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust. (incl. NT, ACT)*
1982	766	406	513	374	263	47	2,373
1983	794	387	551	405	300	51	2,490
1984	799	404	556	417	300	48	2,527
1985	814	410	563	402	274	47	2,512
1986	798	432	585	414	278	45	2,553
1987	830	432	579	422	295	46	2,611

Poultry

The commercial poultry industry comprising hatcheryworkers, egg producers and broiler growers is highly specialised, although a proportion of production comes from 'backyard' egg producers, roughly estimated at from 20 to 25 per cent of the total. There are also separate research schemes funded jointly by industry and government for the egg and meat chicken industries but close liaison exists. Both sectors are good examples of specialised, large scale, capital-intensive production.

POULTRY NUMBERS (a)
('000)

	Chickens			*Other poultry*			
31 March	*Hens and pullets for egg production*	*Meat strain chickens (broilers)*	*Total chickens (b)*	*Ducks*	*Turkeys*	*Other poultry*	*Total all poultry*
1982	14,930	27,478	44,761	317	713	213	46,004
1983	15,532	30,296	48,389	294	467	243	49,393
1984	14,075	31,318	47,529	370	535	239	48,673
1985	13,497	33,761	50,109	219	653	293	51,273
1986	13,752	35,619	51,807	288	580	378	53,053
1987	13,506	39,187	55,579	350	1,126	430	57,608

(a) Data are for numbers of poultry on agricultural establishments as reported in the annual Agricultural Census. *(b)* Includes breeding stock and data not available for separate publication.

For further details on pigs and poultry *see* publication *Livestock and Livestock Products, Australia* (7221.0).

Meat Production, Slaughterings and Other Disposals

The ABS collects details of slaughterings and meat production from abattoirs, commercial poultry and other slaughtering establishments and includes estimates of animals slaughtered on farms and by country butchers. The data relate only to slaughterings for human consumption and do not include animals condemned or those killed for boiling down.

PRODUCTION OF MEAT BY TYPE (a)
('000 tonnes)

	Carcass weight						*Dressed weight (b)*	
Year	*Beef*	*Veal*	*Mutton*	*Lamb*	*Pig meat*	*Total meat*	*Chickens*	*Total all poultry (c)*
1981–82	1,526	50	234	277	228	2,316	259	286
1982–83	1,482	61	250	280	239	2,313	283	314
1983–84	1,303	42	169	296	253	2,064	272	298
1984–85	1,271	39	215	301	260	2,086	315	345
1985–86	1,344	41	258	320	269	2,232	334	367
1986–87	1,469	39	285	297	282	2,373	349	384

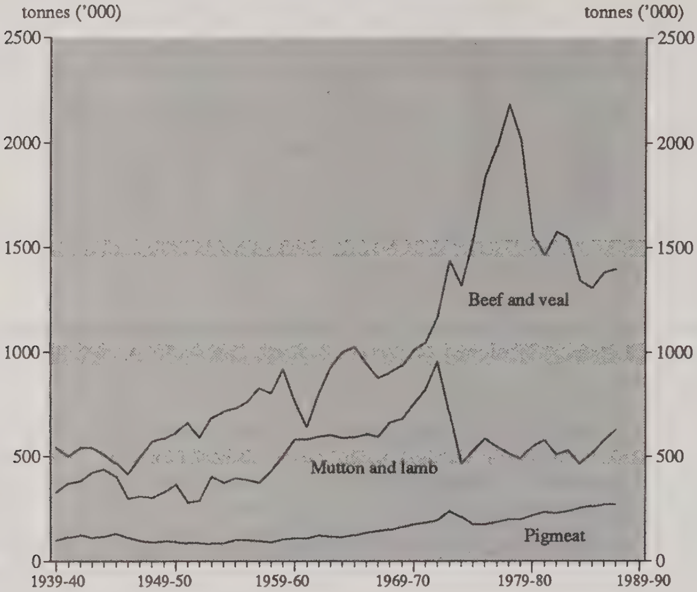
(a) Excludes offal. *(b)* Dressed weight of whole birds, pieces and giblets. *(c)* Includes other fowls, turkeys, ducks and drakes.

NUMBERS OF LIVESTOCK AND POULTRY SLAUGHTERED FOR HUMAN CONSUMPTION
(million head)

Year	*Cattle*	*Calves*	*Sheep*	*Lambs*	*Pigs*	*Chickens (a)*	*Other fowls (b) and turkeys*	*Ducks and drakes*
1981–82	7.2	1.5	11.9	16.3	4.1	205.9	10.0	2.0
1982–83	7.4	1.7	13.1	16.9	4.2	226.2	10.9	1.9
1983–84	6.0	1.3	8.4	17.1	4.4	216.2	10.2	1.7
1984–85	5.8	1.2	10.5	17.5	4.5	244.2	10.7	2.1
1985–86	6.2	1.2	12.9	19.1	4.5	258.4	11.8	2.3
1986–87	6.7	1.2	14.5	17.7	4.7	249.4	11.2	2.1

(a) Comprises broilers, fryers and roasters. *(b)* Comprises hens, roosters, etc.

PRODUCTION OF MEAT, AUSTRALIA
1939-40 to 1986-87



Mutton and lamb

Production of sheepmeats in Australia is closely associated with the wool industry. Sheep grazing often occurs on mixed farms in conjunction with beef and/or grain enterprises and in some areas producers specialise in lamb production. The supply of sheepmeat depends greatly on seasonal conditions, decisions to build up or reduce flock numbers, expectations of wool prices, live sheep exports and the pattern of domestic consumption of meat.

There was a movement out of sheep raising in Australia early in the 1970s, principally as a result of low wool prices, and many producers diversified into cattle and grains. Flock numbers declined from a peak of 180.0 million in 1970 to a low of 131.0 million by 1978. After 1978, wool and sheepmeat prices improved and the trade in live sheep for slaughter overseas continued to expand. As a result, the national flock size increased slightly to 136.0 million by March 1980. Since March 1980, flock numbers have fluctuated as a result of climatic and market conditions peaking at 138.0 million in March 1982, before dropping to 133.2 million in March 1983. Total Australian sheep flock in March 1988 was 154 million head.

Sheepmeat production declined rapidly from the high levels of the early 1970s, which were associated with flock reduction, to annual levels of between 400,000 and 600,000 tonnes from 1973–74. Lamb production declined from a peak of 316,000 tonnes in in 1985–86 to 294,000 in 1987–88, while mutton production has varied between 230,000 and 300,000 tonnes in recent years until 1983–84, when it declined to 169,000 tonnes. Production increased to 289,000 tonnes in 1987–88.

A high proportion of lamb is consumed in Australia with per capita consumption remaining steady at about 14–16 kilograms per year. A high proportion of mutton produced is exported. Australia is the world's largest exporter of mutton, with Japan and the Middle East being the main markets.

Live sheep and lamb exports for slaughter during 1987–88 totalled 6.7 million head, a decline of 15 per cent on the previous year due mainly to the closure of markets such as Algeria and Libya.

Beef and veal

The cattle industry is very dependent on international trade in beef and is subject to great fluctuations. Over half of Australia's beef and veal production is exported, with the United States and Japan the main outlets.

Beef and veal production in Australia rose markedly in the 1970s, reaching peak levels of over 2.0 million tonnes in 1977–78 and 1978–79, but declining to 1.3 million tonnes in 1984–85. The increase in production followed the rapid expansion of the beef herd that had occurred during the late 1960s and early 1970s mainly in response to relatively profitable beef prices and increased demand from overseas markets.

In the mid 1970s, poor economic conditions and heavy domestic supplies of beef in major importing countries led them to impose severe restrictions on their imports. With reduced international demand and heavy supplies in Australia, saleyard prices fell greatly and remained low for about four years. The depressed conditions were accompanied by a severe reduction in the national herd.

Improved seasonal conditions during 1983, accompanied by strengthening overseas demand, resulted in a move towards herd rebuilding. However, the high level of drought-induced slaughterings during 1982 had reduced the breeding herd base implying very slow herd expansion until 1986. Higher slaughtering in 1987–88 was due to record beef prices in the US and a larger than expected number of tenders in Japan. Current projections by the Australian Meat and Livestock Corporation (AMLC) indicate that cattle numbers will slowly increase over the next few years. While slaughtering and production will fall slightly in the short term during the rebuilding process, numbers should expand to 25.5 million by 1992 implying a production increase of over 100,000 tonnes on 1987–88.

Of historical significance to the beef industry in 1988 was the opening of the Japanese and Korean beef markets which will provide substantial opportunities to increase beef exports in the coming years.

Pigmeat

Significant changes have taken place in the pig producing industry in recent years. Capital investment and corporate takeovers have seen the emergence of a few large companies producing 30 per cent of all pigs sold in Australia. These moves on top of the trend to more intensive and efficient production techniques have seen pigmeat production rise steadily since 1982 to reach 285,000 tonnes in 1987–88. In addition, there has been an increase in the slaughter weights of pigs reflecting the demands of the fresh pork trade.

It is believed that about 60 per cent of production is processed into bacon, hams and smallgoods, with the rest sold as fresh pork. Less than 2 per cent of the industry's output is exported. The increasing production of pigmeat therefore reflects a steady increase in per capita domestic consumption over the past three years.

In recent years a small but useful market for the meat of feral pigs has been established in Europe.

Prices paid for pigs at auction have varied quite markedly in recent years. Profitability in the industry may be eroded in the coming year due to higher feed grain prices (*see* Australian Bureau of Agricultural and Resource Economics forecast, *Quarterly Review of the Rural Economy* Volume 10 Number 2.

Poultry meat

The poultry meat industry developed rapidly in the 1970s with both output and consumption rising steeply, although in recent years production has exceeded demand and excess production capacity in the industry continues. Genetic and technical improvements and the organisation of the industry into large-scale enterprises have raised efficiency and helped to reduce production costs relative to other meats. The price competitiveness of chicken meat compared with other meats, especially beef, continues to improve, consolidating the position of poultry meat as the second most important meat after beef in Australia diets.

EXPORTS OR FRESH, CHILLED OR FROZEN MEAT

			QUANTITY *(a)* ('000 tonnes)			
1981–82	536.3	6.3	112.6	29.9	1.5	4.1
1982–83	598.3	7.8	131.8	35.5	1.8	2.2
1983–84	447.3	4.3	58.6	31.7	2.0	1.2
1984–85	406.3	5.2	59.7	27.7	3.2	1.2
1985–86	471.1	5.9	89.8	49.8	2.8	1.7
1986–87	559.9	5.6	107.8	55.2	3.9	2.8
			VALUE f.o.b. ($ million)			
1981–82	1,009.8	14.4	155.3	50.7	3.1	7.3
1982–83	1,164.8	17.9	167.1	61.1	5.4	4.4
1983–84	1,109.6	10.6	84.0	53.4	6.2	2.5
1984–85	1,062.2	16.2	91.7	50.1	11.9	2.5
1985–86	1,301.5	15.7	123.9	87.1	9.9	3.6
1986–87	1,735.1	17.7	165.3	122.1	14.1	5.9

(a) Quantity data on beef, veal, mutton and lamb exports are shown in carcass weight equivalents.

Exports of live animals

For details of the regulation governing the export (and import) of live animals *see Year Book* No. 61.

EXPORTS OF LIVE ANIMALS

	Livestock			*Poultry*		
		Total (a)			*Total*	
Year	*Sheep and lambs*	*Number*	*Value f.o.b.*	*Day old chicks*	*Number*	*Value f.o.b.*
	—'000—		$'000	—'000—		$'000
1981–82	6,009	6,112	214,886	809	935	720
1982–83	6,992	7,086	212,277	370	415	565
1983–84	6,349	6,434	228,481	477	568	693
1984–85	6,256	6,316	216,707	234	369	503
1985–86	6,368	6,537	217,716	289	333	700
1986–87	7,658	7,765	213,700	255	397	900

(a) Also includes cattle, calves, buffaloes and pigs.

PRODUCTION AND EXPORT OF BACON, HAM AND CANNED MEAT

	Production			*Exports*			
	Bacon and ham (a)			*Bacon and ham (c)*		*Canned meat (d)*	
Year	*Bone-in*	*Bone-out*	*Canned meat (b)*	*Quantity*	*Value*	*Quantity*	*Value*
	—'000 tonnes—			'000 tonnes	$m f.o.b.	'000 tonnes	$m f.o.b.
1981–82	18.1	57.8	34.6	0.5	1.9	19.7	50.5
1982–83	17.1	55.6	n.a.	0.5	2.3	21.6	58.7
1983–84	18.4	55.5	n.a.	0.5	2.3	18.6	57.7
1984–85	17.7	58.5	n.a.	0.3	1.3	12.9	38.0
1985–86	18.1	55.9	n.a.	0.1	0.8	14.7	41.9
1986–87	13.4	63.1	n.a.	0.6	2.2	13.9	42.2

(a) Production of bacon and ham 'on the bone' is shown in terms of 'bone-in' weight, while production of boneless bacon and ham is shown in terms of 'bone-out' weight. Production of canned bacon and ham, which is reported in terms of 'stated net weight of packs', is included in the 'bone-out' category. *(b)* Canned weight. Includes bacon, ham and meat and vegetables, but excludes rabbit, poultry and baby foods. *(c)* Cured carcass weight of smoked or cooked bacon and ham. Includes 'stated net weight of packs' of canned bacon and ham. *(d)* Canned weight; excludes canned bacon and ham.

GROSS VALUE OF LIVESTOCK SLAUGHTERINGS AND OTHER DISPOSALS (a)
($ million)

Year	*Cattle and calves*	*Sheep and lambs*	*Pigs*	*Poultry*	*Total*
1981–82	1,890.1	646.7	396.1	362.7	3,295.6
1982–83	2,076.2	548.0	414.9	412.7	3,451.8
1983–84	2,118.0	585.0	375.5	430.2	3,508.6
1984–85	2,253.2	576.1	438.1	512.6	3,783.3
1985–86	2,367.3	531.6	438.3	559.1	3,896.4
1986–87	2,819.7	721.2	468.5	601.7	4,611.0

(a) Includes adjustment for net exports of live animals.

Consumption

The methodology for calculating meat consumption has been revised for the years 1975–76 to 1983–84 and is now shown purely in carcass weight equivalent terms. Canned meat as such is not available. Carcass weight is defined as ex abattoir (i.e. bone-in). Owing to diverse cutting practices by butchers and the difficulty in clearly defining 'retail weight of meat' it is considered impractical to derive a factor for the purpose of expressing estimated meat consumption in terms of retail weight. (Estimates of retail weight as a percentage of carcass weight range from 70 per cent for beef, 80 to 85 per cent for lamb and 80 per cent for pork.)

APPARENT CONSUMPTION OF MEAT AND MEAT PRODUCTS AS HUMAN FOOD

Year	*Beef and veal*	*Mutton*	*Lamb*	*Pigmeat (a)*	*Offal*	*Total meat*	*Poultry meat*
			TOTAL ('000 tonnes)				
1981–82	750	53	245	227	66	1,341	294
1982–83	701	68	247	233	67	1,316	311
1983–84	654	81	261	254	53	1,303	309
1984–85	660	104	267	256	44	1,331	341
1985–86	656	113	268	269	43	1,349	365
1986–87	635	118	241	270	55	1,319	378
			PER CAPITA PER YEAR (kg)				
1981–82	49.8	3.5	16.3	15.1	4.4	89.1	19.6
1982–83	45.9	4.5	16.2	15.3	4.4	86.1	20.3
1983–84	42.3	5.2	16.9	16.4	3.4	84.3	20.0
1984–85	42.1	6.6	17.0	16.4	2.8	85.0	21.8
1985–86	41.4	7.1	16.9	17.0	2.7	85.0	23.0
1986–87	39.4	7.4	15.0	16.8	3.4	82.0	23.5

(a) Includes pigmeat products such as bacon and ham.
NOTE: Beef, veal, mutton, lamb, pigmeat and offal are expressed in terms of carcass weight, and poultry meat in dressed weight.

For further details on meat production and slaughtering *see* the following publications: *Livestock and Livestock Products, Australia* (7221.0), *Value of Agricultural Commodities Produced, Australia* (7503.0) and *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

Australia Meat and Livestock Corporation—AMLC

Legislation was enacted to establish the AMLC from 1 December 1977. The Corporation, which regulates and promotes the export of both meat and livestock and the promotion of domestic consumption, replaced the Australian Meat Board.

In mid 1984 the Australian Government introduced measures to restructure the administration of the Australian livestock and meat industry. Legislation enacted at the time, or foreshadowed, had three primary components:

- a restructured AMLC;
- establishment of the Australian Meat & Livestock Industry Policy Council (AMLIPC);
- the foreshadowed replacement of the Australian Meat Research Committee (AMRC) with an incorporated body called the Australian Meat and Livestock Research and Development Corporation (AMLRDC).

The AMLC has the power to trade in meat and livestock in a manner which accords with adopted policy and with normal commercial practice. its power is also extended to engaging in sole trading or to permitting restricted trading by a specified holder or holders of meat or livestock licences. The exercise of this sole or restricted trading power is limited to circumstances where: a monopoly buying power is, in the AMLC's opinion, distorting normal market forces; such action is necessary or desirable to ensure that producers receive a fair return for the meat or livestock exported to that market; the exercise of sole trading powers would be beneficial for the further development of that market; the exercise of sole trading powers would be in the best commercial interests of the industry.

In order to foster consultation, the AMLC may, for the purposes of considering any matter relating to the performance of its functions, make arrangements for consulting persons and bodies representative of different sectors of the industry.

The AMLC's main functions are to:

- improve the production of meat and livestock in Australia;
- encourage and promote the consumption and sale of Australian meat, and the sale of Australian livestock, both in Australia and overseas;
- encourage, assist, promote and control the export of meat and livestock from Australia.

Exporters of meat and livestock are licenced by the AMLC and have to comply with its requirements in relation to export trading. The AMLC assists exporters in overseas market development and conducts meat promotion activities in Australia and abroad. It has authority also, to perform a wide range of other functions aimed at improving the production of meat and livestock for the general benefit of the meat and livestock industry.

Two bodies have been established within AMLC to undertake major programs for the meat and livestock industry. These are the Authority for Uniform Specification of Meat and Livestock (AUSMEAT), which is developing and implementing a meat and livestock description language, and Computer Aided Livestock Marketing (CALM) which is conducting livestock sales by computer.

Australian Meat and Livestock Industry Policy Council—AMLIPC

The legislation referred to above established a new statutory body, the AMLIPC, to relieve the AMLC of responsibility for the examination of all broad industry policy issues. It is intended that AMLIPC:

- facilitate the participation of industry in the development and formulation of industry policies;
- provide a forum of consensus, building between different sectoral interests within the industry;
- provide opportunities, through AMLIPC Working Groups, for all interested parties to work together on the factual examination of industry problems, and to present practical proposals to government for their solution.

Wool

The Australian Sheep Flock contains nearly 12 per cent of the world's sheep and produces over 30 per cent of the total annual production of wool. This is largely due to the more than 80 per cent of Australian sheep which are pure Merino and raised primarily for their heavy fleeces of fine quality wool.

Wool production

Wool as shorn from the sheep ('greasy wool') contains an appreciable amount of grease, dirt, vegetable matter and other extraneous material other than the clean wool fibre. The exact quantities of these impurities in the fleece vary between countries, differing climatic and pastoral conditions, with seasonal fluctuations and with the breed and condition of the sheep. It is, however, the clean wool fibre that is ultimately consumed by the textile industry and the term 'clean yield' is used to express the net wool fibre content present in greasy wool.

Since the 1946–47 season, the average clean yield of Australian wool has been assessed annually. In the early years, the average clean yield was assessed on the basis of a small number of tests and subjective appraisal. However, in recent years the Australian Wool Corporation has calculated the clip average yield on the basis of laboratory tests of yield applied to nearly all wool offered for sale at auction in Australia. It was 64.31 per cent in 1985–86.

Wool scoured and carbonised in Australia before export, however, has a somewhat lower clean yield than the whole clip, because much of the greasy wool treated locally for export in this form is dirty, low-grade wool. The quantity of scoured and carbonised wool exported during 1985–86 was about 16 per cent of total raw wool exports in greasy terms. For the clean yield of Australian scoured wools exported, a standard factor of 93 per cent has been adopted.

The following table shows details of total wool (i.e. shorn, dead, fellmongered and exported on skins) as well as the numbers of animals shorn, the average fleece weight and the gross value of the wool.

SHEARING, WOOL PRODUCTION AND VALUE

			Wool production			
					Total wool	
Year	*Sheep and lambs shorn*	*Average fleece weight*	*Shorn wool*	*Other wool (a)*	*Quantity*	*Gross value (b)*
	million	kg	'000 tonnes	'000 tonnes	'000 tonnes	$m
1981–82	155.2	4.26	661.0	56.2	717.2	1,789
1982–83	149.1	4.30	641.5	60.2	701.7	1,761
1983–84	152.6	4.40	671.2	56.4	727.6	2,016
1984–85	168.2	4.48	752.7	61.6	814.3	2,434
1985–86	173.8	4.39	762.1	67.9	830.0	2,693
1986–87	179.8	4.53	813.7	73.2	886.9	3,338

(a) Comprises dead and fellmongered wool, and wool exported on skins. *(b)* Gross value is based, for shorn wool, upon the average price realised for greasy wool sold at auction and, for skin wools, on prices recorded by fellmongers and skin exporters.

The wool market

The primary raw wool market in Australia is at public auctions where brokers, acting on behalf of woolgrowers, receive wool into store, and arrange sampling for measurement of the main, vaiable physical characteristics. The wool is then offered for sale at a rostered auction. Some 80 per cent or more of the clip is normally marketed this way, the remainder being sold privately at transaction prices agreed between the grower and a buyer.

The Australian Wool Corporation, on behalf of all growers, operates a minimum price support scheme at public auction sales.

Wool receivals

TAXABLE WOOL RECEIVALS

	Receivals				
Year	*Brokers (NCWSB)*	*Dealers (a)*	*Brokers and dealers*	*Dealers as per cent of total receivals*	*Shorn wool production (b)*
		—'000 tonnes—		per cent	'000 tonnes
1981–82	539.0	141.4	680.4	20.8	661.0
1982–83	509.6	141.2	650.8	21.7	641.5
1983–84	535.5	152.9	688.4	22.2	671.2
1984–85	588.3	164.0	752.2	21.8	752.7
1985–86	599.2	167.6	766.8	21.9	762.1
1986–87	627.5	187.5	815.0	23.0	696.2

(*a*) Includes brokers who are not members of the National Council of Wool Selling Brokers of Australia (NCWSB). (*b*) Obtained from the annual Agricultural Census.

Under the terms of the Wool Tax Acts, all growers pay a tax on the gross value of shorn wool sales, to provide financial backing for wool promotion, research and the operation of a statutory Reserve Price Scheme. The ABS collects details of the total amounts of taxable wool received by wool selling brokers and dealers each year. These figures exclude wool received by brokers on which tax had already been paid by other dealers (private buyers) or brokers.

Wool marketing arrangements

The Australian Wool Corporation is a Commonwealth statutory authority, established at the request of the nation's woolgrowers to undertake a number of functions on their behalf, principally to stimulate the demand for Australian wool. Most important among these functions are the Reserve Price Scheme in the raw wool market, and comprehensive global wool promotion programs.

The Reserve Price Scheme was introduced to the market in 1970 and seeks to provide a measure of wool price stability, in Australian dollar terms, to the benefit of the industry.

A Minimum Price for each wool type is established at the commencement of each wool selling season (financial year). Any wool which fails to attract bids equal to or higher than this minimum is purchased by the Corporation at that price and held until demand improves. As well, when the market is trading at these minimum price levels, the Corporation may intervene in the market with the aim of providing market stability. This may be needed, for instance, when there is exchange rate uncertainty or when the market enters a cycle of volatile price change.

Finance for the operation of the Reserve Price Scheme is provided by growers, through a compulsory Wool Tax.

The Australian Wool Corporation has a number of other responsibilities which include supervision of the industry's comprehensive research programs, establishing, monitoring and when necessary enforcing industry agreed clip preparation standards, shearer training and encouraging efficiency within the sphere of wool handling and transport. It also operates extensive commercial storage facilities on the industry's behalf.

Wool testing

The Australian Wool Testing Authority came into existence in 1957 but its role became more prominent with the introduction, in 1971, of wool valuation techniques relying on objective specification of wool's main physical characteristics. From the first sales of wool in this manner in the early 1970s, this technique has achieved universal acceptance and now 99 per cent of all wool sold at auction is accompanied by certified measurements for yield, (i.e. the amount and type of clean wool fibre), average fibre diameter and the percentage and type of vegetable fault.

During 1986–87, commercial testing commenced for the additional characteristics of staple length and strength. While the uptake of these additional measurements to date has been modest (17 per cent of 'combing' wool types during 1987–88) these new measurements are seen as necessary to future marketing efficiency for Australian wool.

At the direction of the Commonwealth Government, the Authority, which had operated as a division of the Corporation, was transferred to the private sector effective from the beginning of July 1982. The new company is known as AWTA Ltd.

Wool promotion

Since 99 per cent of the Australian wool clip is exported, the other major arm of wool marketing is the demand stimulating activities carried out in manufacturing and consumer markets around the world. These programs, which commenced in 1937, were significantly scaled up in the 1960s in response to the challenge posed by synthetic fibres. In more recent times these programs have again been increased in an effort to ensure wool's future as a preferred textile fibre in the world's major consumer markets. Growers have financed wool promotion since its inception, and for 1987–88 this was at the rate of 3.5 per cent of gross wool sales revenue, totalling $188.9 million. This was boosted by a Commonwealth Government contribution of $31.3 million, which meant a total $220.2 million was available for wool promotion during the year. The majority of these funds are remitted to the International Wool Secretariat which operates actively in more than 50 countries around the world.

Wool research

Australian woolgrowers have financed industry research programs since 1937. In recent times this was coordinated through the Wool Research Trust Fund to which both the woolgrowers and the Commonwealth Government contributed. The Fund was administered by the Commonwealth Department of Primary Industries and Energy.

From 1 July 1986, the task of determining industry research priorities and allocating funds was transfered to a new body, the Wool Research & Development Council which was constituted as a committee of the Australian Wool Corporation.

Major recipients of wool industry research funds include the Commonwealth Scientific and Industrial Research Organization (CSIRO)—especially in the fields of wool textiles and wool production; Bureau of Agricultural and Resource Economics; universities and States departments of agriculture/primary industry.

Wool income

Fluctuations in wool prices have a marked effect on agricultural and national income. In 1945–46 the gross value of wool production was $117.2 million, representing 17.4 per cent of the gross value of all agricultural commodities produced, while in 1955–51, when prices reached a peak during the Korean War, wool was valued at $1,303.8 million, or

55.6 per cent of total agricultural industries. More recent figures for the contribution of wool income to total agricultural production and national exports reflect the growth in other commodities over the intervening years, rather than a decline in the fortunes of the wool industry.

WOOL INCOME
(per cent)

Year	*Value of wool as a per cent of total agriculture*	*Value of wool exports as a per cent of total Australian exports*
1981–82	14.1	10.2
1982–83	15.0	8.5
1983–84	13.1	8.7
1984–85	15.8	8.7
1985–86	17.5	7.3
1986–87	19.3	10.9

The gradual strengthening of wool prices since the mid 1970s has seen wool's contribution to total national export revenue increase steadily. This trend has accelerated in the years since 1983–84 when export income from wool has climbed from just over $2 billion to reach $6 billion during 1987–88. This means that wool is again Australia's largest earner of export revenue, as it has been for most of the 200 years of European settlement in Australia.

Stocks

Stocks shown below of raw and semi-processed wool were held by wool processors, scourers, fellmongers, brokers, dealers and the Australian Wool Corporation. They exclude wool on skins since this wool is not recorded as production until fellmongered in Australia or exported on skins.

WOOL STOCKS
('000 tonnes)

	Stocks of—					
	Raw wool		*Semi-processed wool*		*Total wool*	
At 30 June	*Greasy*	*Clean*	*Greasy*	*Clean*	*Greasy*	*Clean*
1982	210.7	131.6	8.5	5.3	219.2	137.0
1983	305.4	189.5	8.2	5.1	313.6	194.6
1984	368.4	232.1	9.6	6.1	378.0	238.2
1985	332.8	212.5	9.1	5.9	341.9	218.3
1986	299.0	190.9	8.5	5.5	307.5	196.3
1987	191.2	122.2	9.9	6.4	201.3	128.6

Wool processing

During the 1970s there was a trend to increased early stage processing of Australian wool before export. The last 2 years has seen a further wave of investment in this area, with some expansion of existing facilities and some new plants being built. There is now sufficient capacity in Australia to process over 20 per cent of the Australian wool clip prior to export.

The main scope for expanded domestic processing remains with worsted types for export in scoured or combed top form. Japanese processors initiated the export of scoured worsted types from Australia, and Japan became Australia's major market for scoured wool in

1973–74. In more recent times China has emerged as a major destination for Australian wool, much of which is part processed prior to export.

Before 1975 the wool processing industry was largely centralised in cities close to major ports. Since then, however, much of the expansion has been in decentralised, inland locations.

Wool consumption

Two series of calculations on Australian wool consumption are shown below:

- Consumption of raw wool, which measures consumption in terms of scoured wool used by mills;
- Consumption of processed wool, which is calculated from the usage of woollen and worsted yarn.

Raw wool comprises greasy, slipe, scoured and carbonised wool. This series has been included for purposes of comparison with other countries.

CONSUMPTION OF RAW AND PROCESSED WOOL
('000 tonnes)

	Consumption of raw wool		*Consumption of processed wool*					
			Worsted yarn used (a)		*Woollen yarn used (b)*		*Total*	
Year	*Greasy*	*Clean*	*Greasy*	*Clean*	*Greasy*	*Clean*	*Greasy*	*Clean*
1981–82	55.5	33.1	8.6	5.1	15.3	9.5	25.1	15.1
1982–83	54.7	32.7	9.8	5.8	13.1	8.2	24.1	14.5
1983–84	54.4	32.4	9.8	5.7	14.4	8.9	25.5	15.2
1984–85	59.3	35.4	10.7	6.3	17.0	10.6	28.9	17.4
1985–86	62.5	37.3	10.5	6.1	18.3	11.4	29.9	18.1
1986–87	62.9	37.6	11.4	6.7	17.1	10.7	29.8	17.9

(a) Wool content of yarns containing a mixture of wool and other fibres. *(b)* Comprises pure and mixed woollen yarn.

The second series is considered to be a more satisfactory measure of Australian wool consumption, principally because allowance is made for significant quantities of wool tops exported. However, both series relate to consumption of wool by the wool textile industry, and should not be used as measures of consumption of wool at retail level. It has not been possible to estimate wool consumption at retail level because of the impractibility of obtaining reliable data concerning the wool content of the multiplicity of woollen and worsted piece-goods.

Exports of wool

From its earliest days the Australian wool industry has been export oriented, and today approximately 99 per cent of total annual production of wool is exported.

Apart from wool in its natural 'greasy' state, and in part processed forms (i.e. scoured, carbonised, top and noil) a significant quantity of wool is also exported on sheep skins.

EXPORTS OF WOOL

Year	*Selected exports ('000 tonnes: greasy basis)* Greasy and slipe	Scoured and carbonised	Exported on skins	*Total exports* Greasy basis (a)	Value f.o.b.
				'000 tonnes	$m
1981–82	497.6	93.0	50.6	667.9	1,913
1982–83	487.7	82.0	54.2	653.6	1,881
1983–84	497.7	95.7	50.7	669.8	2,049
1984–85	554.9	108.5	55.4	746.8	2,548
1985–86	607.9	130.4	61.2	830.5	3,098
1986–87	677.2	150.6	65.8	923.6	3,888

(a) Includes processed wool.

For further details on sheep shorn, wool production and overseas trade *see* the following publications: *Livestock and Livestock Products, Australia* (7221.0), *Sheep Numbers, Shearing and Wool Production Forecast, Australia* (7211.0), *Shearing and Wool Production Forecast, Australia, Preliminary* (7210.0), *Livestock Products, Australia* (7215.0), *Foreign Trade, Australia* (5409.0, 5410.0), *Production Bulletin No. 4, Australia* (8360.0) and *Value of Agricultural Commodities Produced, Australia* (7503.0).

Dairying

Dairying in Australia has experienced quite significant changes in recent decades. In response to changed demand patterns and consumer preference, both in Australia and overseas, there have been dramatic changes in cow numbers, farm productivity, product mix, export levels and major export destinations.

Although dairying occurs in all States, Victoria, Tasmania and New South Wales combined account for 80 per cent of total milk production. In recent years there has been structural adjustment in some States to match production with domestic market demand particularly liquid milk demand. With the exception of some inland irrigation areas, e.g. the Goulburn–Murray Valley and the M.I.A., most dairying is centred along the coastal belt. Some feed lot dairies have been established in Australia.

Production

Wholemilk production has been around 6,000 million litres in more recent years with Victoria representing approximately 60 per cent. Although total production has stabilised, this has been associated with a fall in both cow numbers and the number of registered dairy farms. In 1986–87 there were some 17,600 registered dairy farms with 1,697,000 cows in production. This compares with 1982 figures showing some 20,300 farms and 1,812,000 cows.

The factors behind the yield gains of about 4 per cent per annum since 1982 include improved feeding programs (pasture and supplementary), genetic/breeding gains and generally enhanced farm management practices. Economy of operation gains have been possible as average farm and herd size has increased. This has enabled more economic application of new technology.

There has also been change within the processing sector, reflecting adjustments to relative prices. Persistent world stockpiles of butter have depressed export prices over recent years. As a result there has been a marked swing away from butter production to cheese and wholemilk powder production. Associated with falling butter production has been a fall in skim milk powder production. New technology, e.g. short method cheese production and ultra filtration, is enabling the processing sector to improve its relative competitiveness. Recent amalgamations within the processing sector should enable further competitive gains.

Domestic market

The consumption of dairy products in Australia has undergone change in recent years in both the volume and composition of dairy product consumption. These changes generally reflect changes within the Australian population as Australia becomes more culturally diverse. Other factors influencing dairy food consumption include changed consumer preference, e.g. more diet/health conscious, and changed relative prices (butter with respect to margarine). Liquid milk sales account for around 27 per cent of total milk production and compete heavily against other non-alcoholic beverages, e.g. fruit juices. Changes in manufactured dairy produce consumption have been more dramatic than for liquid milk. Recent product developments such as spreadable butter and butter/vegetable oil blends have been commercialised with reasonable success.

Since 1960 annual per capita cheese consumption has risen by an average of 7.9 per cent with current levels at around 8.4 kilograms. The area of greatest growth has been in the specialty type cheeses while per capita consumption of traditional cheddar type cheeses has stabilised at around 4.5 kilograms per annum. The cheeses to have experienced quite large increases include Camembert, Mozzarella and Parmesan.

Recent figures indicate a slight trend towards locally produced cheese at the expense of imported product—particularly from the EEC. This trend towards local product reflects international currency movements and a more responsive local processing sector. Smaller, sometimes on-farm, cheese plants have been recently established in response to this consumer trend towards the specialty type cheeses.

MILK CATTLE NUMBERS
('000)

		Cows and heifers used or intended for production of milk or cream for sale			
			Heifers		
31 March	*Bulls used or intended for service*	*Cows (in milk and dry)*	*1 year and over*	*Under 1 year*	*House cows and heifers (a)*
1982	49	1,810	465	387	73
1983	47	1,792	460	390	69
1984	46	1,809	483	401	66
1985	45	1,809	475	413	63
1986	43	1,770	488	397	61
1987	37	1,716	464	381	41

(a) One year and over, kept for the establishment's own milk supply.

International marketing

During 1987–88, Australia exported dairy product to the value of $488 million (f.o.b.). In value terms, the main exports were cheese and milk powders, especially skim and whole milk. Given changes in the international marketing environment—especially the EEC—the direction of Australian dairy product exports has changed significantly over recent years.

World market price minima for dairy products are established under the General Agreement on Tariffs and Trade (GATT). The minima are determined after consultation with relevant signatory nations. GATT minimum prices for all major products were increased in March 1988 in response to the tightening international stock situation.

Government assistance

New institutional market arrangements in the Australian dairy industry were introduced on 1 July 1986. This scheme was developed after much industry consultation and replaced an equalisation scheme which aimed to protect the industry from unexpected and sharp falls in market prices. Central to the former scheme was that returns on export markets were pooled and manufacturers received an equalised return.

Under the current scheme there is to be no equalising of returns and, as such, individual manufacturer performance may be reflected in farm gate returns. The general thrust of the new arrangements are to further expose the industry to market forces, both locally and overseas. An integral part of the current arrangements is the operation of the Market Support Payments and the Supplementary Support Payment funds. These funds aim to support export market returns.

The Market Support Payments Fund is financed via an all milk levy which is determined by government following recommendation of the Australian Dairy Corporation. The all milk levy for 1988–89 was set at 45c/kg milkfat; current legislation prevents the levy exceeding 45c/kg milkfat.

The Supplementary Support Payment Scheme was established to cover the transition from the former underwriting/equalisation scheme to the current arrangements. Product levies are payable on all domestic sales of butter and certain cheese varieties. The Treasurer announced in the 1988 May Economic Statement that the phase-out of the Supplementary Support Scheme would be accelerated, with levies reduced heavily in 1988–89. Supplementary Support will cease entirely from 1 July 1989. Assistance to industry is also offered via the Rural Adjustment Scheme which provides financial assistance for such things as farm build-up, farm-improvement and household support. Government funding of dairy research is provided on a dollar for dollar matching basis with industry funded contributions. Producers at present pay a 0.45 cents/kg milkfat levy for research and a 4.95 cents/kg milkfat levy for promotion.

The allocation of research funds is administered through the Dairy Research Council. Dairy Research Council supported research covers three broad areas—farm, manufacturing, and economics and marketing. Examples of more specific research include promotion effectiveness, cheese making technology, pasture renovation, animal nutrition and distribution.

PRODUCTION, UTILISATION AND GROSS VALUE OF WHOLE MILK

	Whole milk intake by factories (a)			
Year	*Market milk sales by factories*	*Milk used in the manufacture of dairy products*	*Total intake*	*Gross value*
	—million litres—			$m
1981–82	1,552	3,716	5,268	1,033.9
1982–83	1,573	3,951	5,524	1,186.5
1983–84	1,572	4,351	5,923	1,153.2
1984–85	1,593	4,445	6,038	1,035.4
1985–86	1,625	4,412	6,037	1,106.7
1986–87	1,685	4,491	6,176	1,257.4

(a) These milk intake figures have been collected (from milk factories) by the Australian Dairy Corporation and replace statistics of whole milk production and utilisation previously compiled by the ABS.

Industry outlook

Prices received by Australian manufacturers for both domestic and export products are heavily dependent on policies within the EEC and the United States; with commodity prices relating directly to world stock levels. Production quotas and disposal schemes in the EEC particulary have effectively removed the stockpiles that have overhung the international market in recent times. As a result, world prices have firmed considerably, and this is being reflected in higher payments to producers for manufacturing milk.

At present, trade between Australia and New Zealand is covered by a Memorandum of Understanding. This aims to ensure that there is close liaison between the two countries on matters such as third markets, respective domestic issues regarding production, pricing etc., and access to each country's market. Currently, sales growth of New Zealand is restricted to growth in the total Australian market. Access is currently set at approximately a 5 per cent share of the Australian cheese market. Negotiations on the terms of the Australia–New Zealand Closer Economic Trade Agreement (CER) in 1988 determined that trade in dairy products between the two countries is to be unrestricted by 1990. The reaction of the Australian Dairy industry to this development will be crucial to the Industry's future.

While the international market heavily influences the Australian dairy industry, so too does the domestic market. It is possible that the national liquid milk market may be less controlled in the future. This possibility, together with changing consumer preferences provides the Australian dairy industry with significant challenges.

PRODUCTION AND TRADE OF BUTTER AND CHEESE

	Butter			*Cheese*			
		Exports (a)			*Exports (b)*		
Year	*Factory production*	*Quantity*	*Value f.o.b.*	*Factory production (c)*	*Quantity*	*Value f.o.b.*	*Imports*
	'000 tonnes	'000 tonnes	$m	'000 tonnes	'000 tonnes	$m	'000 tonnes
1981–82	76.4	5.0	14.0	153.3	57.5	122.9	16.1
1982–83	88.3	15.5	41.1	158.2	54.5	134.6	19.7
1983–84	111.3	27.4	50.3	161.1	54.6	141.1	22.3
1984–85	114.0	40.7	69.2	159.6	67.6	163.7	22.3
1985–86	105.0	42.9	71.6	170.1	66.1	165.5	20.3
1986–87	103.9	27.3	52.9	177.5	62.2	164.3	17.7

(a) Excludes ghee and butter concentrates. *(b)* Includes processed cheese exports. *(c)* Factory production is shown only for non-processed cheese.

APPARENT CONSUMPTION OF MILK, BUTTER, CHEESE AND MARGARINE

	Apparent consumption Total			*Apparent consumption Per capita per year*				
							Margarine	
Year	*Market milk*	*Butter*	*Cheese*	*Market milk*	*Butter*	*Cheese*	*Table*	*Other*
	ML	'000 tonnes	'000 tonnes	Litres	kg	kg	kg	kg
1981–82	1,552	65	105	103.1	4.3	7.0	6.8	2.7
1982–83	1,572	61	113	102.9	4.0	7.4	6.8	2.8
1983–84	1,572	60	118	101.6	3.9	7.7	6.9	2.7
1984–85	1,594	62	126	101.8	3.9	8.1	6.6	2.3
1985–86	1,625	60	125	102.5	3.8	8.0	6.9	2.1
1986–87	1,655	56	130	102.6	3.5	8.1	6.8	2.1

For further details on the dairying industry *see* the publications, *Livestock and Livestock Products, Australia* (7221.0), and *Production Bulletin No. 3: Food, Drink and Tobacco, Australia* (8359.0).

Beekeeping

The beekeeping industry consists of approximately 300–400 full-time apiarists, who produce approximately 70 per cent of Australian honey, and a large number of part-time apiarists who produce the rest. Some of these apiarists move as far afield as from Victoria to Queensland in an endeavour to obtain a continuous supply of nectar for honey from suitable flora. While honey production remains the predominant sector of the industry, production of breeding stock and provision of pollination services is significant.

Exports of honey are regulated by the Australian Honey Board which also promotes honey consumption.

Statistics in the following table relate to apiarists with forty or more hives.

BEEKEEPING STATISTICS

		Number of beehives		*Honey produced*			*Beeswax produced*	
Year	*Number of apiarists*	*Productive*	*Total*	*Quantity*	*Average production per productive hive*	*Gross value*	*Quantity*	*Gross value*
		'000	'000	'000 tonnes	kg	$'000	tonnes	$'000
1981–82	2,263	405	552	24.8	61.3	18,211	482	1,978
1982–83	2,182	390	540	22.5	57.7	16,605	424	1,613
1983–84	2,148	393	529	25.0	63.6	19,220	467	1,622
1984–85	2,222	413	553	28.0	67.7	21,257	528	2,077
1985–86	2,250	427	560	26.9	63.0	25,387	490	2,035
1986–87	1,851	472	537	25.3	53.6	33,038	465	1,988

EXPORTS OF HONEY AND BEESWAX

	Honey		*Beeswax*	
Year	*Quantity*	*Value f.o.b.*	*Quantity*	*Value f.o.b.*
	'000 tonnes	$'000	tonnes	$'000
1981–82	12.8	10,596	303	1,216
1982–83	14.8	13,075	368	1,387
1983–84	11.0	11,152	256	963
1984–85	17.5	16,480	390	1,589
1985–86	14.6	16,724	292	1,352
1986–87	11.9	16,615	235	1,134

Honey levy

The *Honey Levy Acts (Nos 1 & 2) 1962* impose a levy on domestic sales of honey. The rate of levy is set by regulation up to a maximum of 2.70c per kg fixed by the legislation.

The *Honey Export Charge Act 1973*, imposes a charge on exports of honey. The legislation provides for a maximum charge of 1.5c per kg.

For further information, *see* the publication *Livestock and Livestock Products, Australia* (7221.0).

Eggs and Egg Products

Commercial egg production in Australian States (including NT but excluding ACT) in 1985–86 was about 183.1 million dozen. The decrease in recent years is expected to continue as all States endeavour to reach their goal of maintaining quota hen numbers at such levels as will result in production being very close to domestic needs with very little left over for export. Such action has been taken as the net return on exports of shell eggs and egg products has been well below the cost of production in past years.

EGGS AND EGG CONSUMPTION
(million dozen)

			Apparent consumption in Australia as human food	
Year	*Recorded commercial production*	*Exports (a)*	*Total*	*Per capita (number of eggs)*
1984–85	185.8	6.3	178.6	137
1985–86	183.1	7.6	177.4	134
1986–87	184.5	4.7	*(b)*184.5	*(b)*138

(a) Includes shell egg and egg products in shell egg equivalent. *(b)* Data from 1982–83 consists of commercial disposals only.

Exports

The Australian Egg Board, established by Commonwealth legislation in 1947, was responsible for coordinating export marketing arrangements. It was empowered to purchase surplus domestic supplies from State marketing authorities, if they so wished, and to arrange to sell such eggs or products on overseas markets.

EXPORTS OF EGGS AND EGG PRODUCTS

			Eggs not in shell			
	Eggs in shell		*Liquid form*		*Dry*	
Year	*Quantity*	*Value f.o.b.*	*Quantity*	*Value f.o.b.*	*Quantity*	*Value f.o.b.*
	'000 doz	$'000	tonnes	$'000	tonnes	$'000
1981–82	1,143	1,095	5,013	6,400	62	219
1982–83	2,672	1,763	3,455	4,108	85	682
1983–84	6,734	3,541	6,892	6,112	95	312
1984–85	1,964	1,837	3,696	4,462	203	1,058
1985–86	2,315	2,743	2,315	2,743	129	652
1986–87	916	1,436	1,869	4,008	43	231

Following reviews of the Board's operations, in the light of falling export quantities resulting from industry actions to reduce surplus production, the Commonwealth Government announced in August 1984 its decision to abolish the Australian Egg Board. Legislation was enacted late in 1984 to abolish the Board.

Any export marketing is now undertaken by the individual State Board concerned under the aegis of an Exporters Committee established by the Australian Egg Marketing Council (AEMC). The AEMC is a non-statutory body whose membership is made up of the members of the State Egg Marketing Boards.

Exports are predominantly in egg pulp form—white, yolk and whole egg.

Agricultural Improvements

Irrigation on agricultural establishments

Irrigation is one of the factors by which agriculture is developed. The variability in stream flow and annual rainfall means that successful irrigation of crops and pastures is dependent on storage. Ground water supplies are also used in areas where the quantity is adequate and the quality is suitable. The area of land irrigated (approximately 1.8 million hectares in 1986–87) forms 9.2 per cent of the total area under crops.

Chapter 16, Water Resources, contains additional details of water conservation and irrigation with international, national and interstate aspects.

Irrigation statistics are collected every three years in the Agricultural Census and represent area actually irrigated.

SOURCE AND USAGE OF WATER, AUSTRALIA

			Estimated annual water use in 1983–84 (a)			
Irrigation—area irrigated, by source 1986–87 (b)	*Area*	*Percentage of total area irrigated*	*Irrigation*	*Rural (excl. irrigation)*	*Urban/ industrial*	*Total*
	'000 hectares			—gigalitres—		
Surface water—						
State irrigation schemes	924.2	51	n.a.			
Rivers, creeks, lakes	501.8	28				
Farm dams	112.2	6				
Total surface water	*1,538.2*	*85*				
Town or country reticulated *(c)*	6.9	1				
Underground (ground water)	266.5	15				
Total, all sources	**1,811.7**	**100**	**10,226**	**1,342**	**3,062**	**14,629**

(a) Source: 1985 Review of Australia's Water Resources and Water Use. Water Use Data set, Department of Resources and Energy; Australian Water Resources Council. The data in the original are shown by Drainage Division and provide a sound basis for the efficient utilisation of existing resources and the planning of future projects. *(b)* Source is the Agricultural Census and represents area actually irrigated. *(c)* This source represents irrigation water which has come from either surface or underground sources.

Fertilisers

Most Australian soils are deficient in phosphorus. Because of this and the significant but less widespread deficiency of sulphur in many soils, phosphatic fertilisers, particularly single superphosphate, account for the bulk of fertiliser usage. Nitrogen deficiency is also general in Australian soils and the use of nitrogenous fertilisers is increasing. Potassium deficiency however is confined mainly to soils in the higher rainfall areas which are intensively cropped or used for irrigated pastures.

The pattern of fertiliser usage in Australia has changed dramatically in recent years. Prior to 1973–74 the usual consumption ratio of elemental N:P:K has been 2:6:1, but by 1983 the ratio had changed to almost 3:3:1. This variation has resulted from a combination of reduced consumption of phosphatic fertilisers with an increased consumption of nitrogenous fertilisers.

The domestic industry has sufficient manufacturing capacity to meet normal local demand for phosphatic fertilisers but not nitrogenous fertilisers. Australia is dependent on imports of potassic fertilisers, rock phosphate and sulphur. Imports of compounded high analysis fertilisers and specialised fertilisers were insignificant until 1982–83. Since then, however, imports have been rising strongly, largely as a result of oversupply and lower prices on the world market.

ARTIFICIAL FERTILISERS: AREA AND USAGE

Year	*Area fertilised*	*Super-phosphate used*	*Nitrogenous fertilisers used*	*Other fertilisers used*
	'000 ha	'000 tonnes	'000 tonnes	'000 tonnes
1981–82	26,777	2,873	395	599
1982–83	n.a.	2,562	429	633
1983–84	n.a.	2,481	414	721
1984–85	26,407	2,374	421	885
1985–86	25,089	2,160	408	869
1986–87	24,473	2,079	401	850

Since the Second World War there has been a great expansion of the area of sown pasture accompanied by an increased use of fertilisers. New pasture varieties (including tropical species) have been developed, and nutrient or trace elements deficiencies in soils identified.

The main artificial fertiliser used in Australia is superphosphate, over half of which is used on pastures, mainly in areas with moderate to good rainfall. Large quantities are also used on cereal crops.

SUPERPHOSPHATE USAGE

	Selected crops and pastures					
Year	*Sown and native pastures*	*Lucerne*	*Wheat*	*Other cereals*	*Sugar cane*	*Total*
	AREA FERTILISED ('000 hectares)					
1981–82	12,240	106	9,361	4,034	301	26,777
1982–83	10,711	n.a.	9,299	n.a.	300	n.a.
1983–84	10,175	n.a.	9,672	n.a.	292	n.a.
1984–85	10,686	133	9,694	4,588	297	26,407
1985–86	10,674	n.a.	8,813	n.a.	288	25,089
1986–87	10,399	n.a.	8,525	n.a.	289	24,064
	SUPERPHOSPHATE USED ('000 tonnes)					
1981–82	1,518	21	801	416	31	2,873
1982–83	1,289	n.a.	777	n.a.	27	2,562
1983–84	1,229	n.a.	720	n.a.	23	2,481
1984–85	1,227	24	618	352	18	2,374
1985–86	1,211	n.a.	499	n.a.	16	2,160
1986–87	1,130	n.a.	437	n.a.	16	1,981

PRODUCTION AND IMPORTS OF FERTILISERS

Item		*1981–82*	*1982–83*	*1983–84*	*1984–85*	*1985–86 (a)*	*1986–87*
PRODUCTION							
Superphosphate *(b)*	'000 tonnes	3,464	2,877	2,668	2,647	n.a.	n.y.a.
Mixed chemical fertilisers (including complete manure)	'000 tonnes	1,092	967	990	1,167	n.a.	n.y.a.
Leaf and foliage type fertilisers (including dry and liquid form)	tonnes	7,765	6,846	n.p.	n.p	n.a.	n.y.a.
Manure (without added chemical fertilisers)*(c)*	tonnes	26,677	34,128	39,107	37,545	n.a.	n.y.a.
IMPORTS							
Crude fertilisers (mainly natural phosphate)	'000 tonnes	2,772	2,148	1,689	1,763	1,922	1,452
	Value $m	128.6	109.1	86.3	89.5	107.6	85.3
Manufactured, mineral or chemical fertilisers—							
Nitrogenous *(d)*	'000 tonnes	108	101	91	201	200	290
	Value $m	16.2	15.6	14.8	41.8	29.9	42.4
Potassic *(e)*	'000 tonnes	255	203	228	239	195	227
	Value $m	26.7	20.7	23.1	29.3	27.2	26.6
Other *(f)*	'000 tonnes	92	273	389	437	331	119
	Value $m	19.1	53.1	87.8	106.7	89.6	28.1

(a) No Manufacturing Census was conducted in respect of 1985–86. *(b)* Includes double and triple superphosphate and ammonium phosphate in terms of single superphosphate. *(c)* Blood, bone and/or offal, and other material. *(d)* Mainly ammonium nitrate, ammonium sulphate, calcium ammonium nitrate, sodium nitrate and urea containing in the dry state more than 45 per cent by weight of nitrogen. *(e)* Mainly potassium chloride and potassium sulphate. *(f)* Includes phosphatic fertilisers and compounds of the main elements nitrogen, phosphorus and potassium (NPK complete).

Agricultural machinery on agricultural establishments

Statistics on the type of agricultural machinery on agricultural establishments were published in early issues of the *Year Book*. Additional information was published in the publication *Agricultural Land Use, Improvements and Labour, Australia, 1980–81* (7103.0). Details of the sales of new tractors for agricultural purposes are given in the quarterly publication *Sales and Stocks of New Tractors, Australia* (8507.0).

Employment in Agriculture

Employment on agricultural establishments

Prior to 1976, data on employment collected at the annual Agricultural Census differentiated between permanent full-time employees and temporary employees. Full-time workers excluded casual or seasonal workers and other persons working only part-time. Casual or seasonal workers were shown as temporary employees.

In the past it has been difficult to maintain comparability of employment on agricultural establishments from year to year because of the changing number of lessees and share farmers and because of the tendency of many farmers to include part-time family helpers as full-time workers in their returns. Since World War II there has been a decline in the percentage of people living in rural areas due, in part, to a rising standard of living accompanying the introduction of new techniques and increasing use of capital equipment, fuel, fertilisers, and pesticides. As a result, a smaller agricultural labour force is now producing a larger output of farm products.

EMPLOYED PERSONS IN AGRICULTURE AND SERVICES TO AGRICULTURE ('000)

Month of August	*Males*	*Married females*	*All females*	*Persons*
1982	281.7	87.1	101.0	382.8
1983	290.2	80.2	94.1	384.2
1984	279.3	80.0	93.8	373.1
1985	287.4	89.5	107.1	394.5
1986	278.4	94.0	112.1	390.6
1987	300.4	98.8	116.7	417.1

Regulation of Australian Agricultural Industries

Year Book No. 61, pages 837–57, contains a summary of the means by which agricultural industries are assisted and regulated. It is not intended as a comprehensive statement of all the consultative and legislative assistance and control measures that exist, but rather as a description of the way in which these processes affect the crops, livestock and livestock products referred to earlier in this chapter.

Agricultural Research by CSIRO

Agricultural research conducted by the Commonwealth Scientific and Industrial Research Organization (CSIRO) is directed primarily to aspects of agricultural production and processing that are of widespread significance and require mid-term to long-term research. It is aimed at establishing principles, practices and technologies that will improve the efficiency and long-term viability of Australian agriculture and its capacity to respond to changing needs. It is vertically integrated, covering all aspects from production through to post-harvest handling, storage and processing, and includes studies designed to integrate new plant varieties, animal breeds and production technologies into sound production systems.

CSIRO's research is appropriate for attacking problems or developing opportunities that transcend State boundaries; are complex and require concentration of disciplinary effort for their solution; and may need sustained long-term effort before they yield practical results. Its agricultural research complements that of State government departments and universities, and the Organization attaches considerable importance to collaborative research with them.

CSIRO's agricultural research covers the following research areas: plant improvement; plant physiology and biochemistry; soils and plant nutrition; crop and pasture pests and diseases; livestock production; livestock health; agricultural systems; wool textiles and marketing; food handling, processing and storage; and agricultural and veterinary chemicals. There is also research directly relevant to the agricultural industries carried out within the research area of environmental protection and rehabilitation.

Most of CSIRO's agricultural research is performed within the Institute of Animal Production and Processing and the Institute of Plant Production and Processing. The Institute of Animal Production and Processing carries out scientific and technological research aimed at improving the efficiency of livestock production and processing and the quality and safety of human foods. The Institute's activities include research on control of indigenous and exotic animal diseases; nutrition, reproduction, genetics and management of livestock; methods of processing, handling and storing meat, dairy foods, and fruit and vegetables; and wool textiles and marketing. This research is performed by the following constituent units of the Institute—the Divisions of Animal Health; Animal Production; Tropical Animal Production; Food Processing; Wool Technology; and the Australian Animal Health Laboratory.

Research in the Institute of Plant Production and processing is directed to improving the profitability and stability of industries based on field crops, pastures, horticulture and forests, and to providing knowledge for the use and management of Australia's soils, plants and insects. Specific objectives are: to increase understanding of basic plant biological processes and their interactions with insects and soils; to increase the variety and quality of plant-based products to meet market needs; to develop more efficient production systems; to develop technologies to provide new opportunities for Australian industries; and to improve the community's understanding of Australia's plants, insects and soils. This research is performed in the following constituent Divisions of the Institute: Entomology; Forestry and Forest Products; Horticulture; Plant Industry; Tropical Crops and Pastures; and Soils.

The Institute of Industrial Technologies is also engaged in research of direct benefit to the agricultural industries through research on the design and synthesis of potential agricultural chemicals performed by the Division of Chemicals and Polymers.

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14

FORESTRY AND FISHING

FORESTRY

Forests are an important national resource, renewable over time and providing a wide range of indispensable products and benefits to the community.

The cover of forest vegetation protects the soil from water and wind erosion, reduces flash flooding and siltation of water storages, and maintains the quality of water. Forests provide habitat for a variety of native animals and plants, many of which depend on specific forest environments for survival.

Native and plantation forests contribute substantially to the Australian economy, especially to employment in rural areas. Forests also represent ecosystems of value for education, scientific research, tourism, recreation and other purposes. Not all forests are necessarily suitable for all types of uses at the same time. Yet careful management will ensure that the forests provide multiple benefits in the long-term, for the Australian community.

Forestry in the States and Territories

In the Commonwealth framework, State governments are primarily responsible for land management. Each State has a forest service responsible for the management and control of publicly-owned forests, in accordance with Forestry Acts and Regulations. The Office of the ACT Administration, housed within the Department of the Arts, Sport, the Environment, Tourism and Territories, is responsible for the management and control of forests in the Australian Capital Territory. Forestry in the Northern Territory is the responsibility of the Northern Territory Conservation Commission. In Victoria and Western Australia the former independent forest services have been amalgamated with conservation and land management authorities.

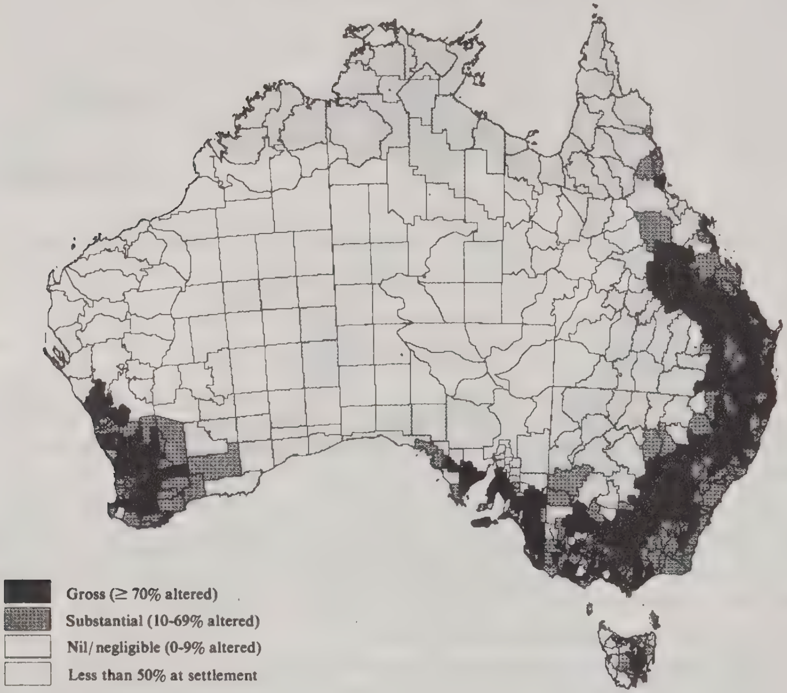
Commonwealth forestry administration

The Department of Primary Industries and Energy is responsible for forestry matters at the national level. Its primary responsibilities are the administration of a control on the export of unprocessed timber; liaison with State, national and international organisations concerned with forestry; and provision of the Secretariat for the Australian Forestry Council.

Existing forest estate

Native forest is defined as land dominated by trees with an existing or potential mature height of twenty metres or more, including native stands of cypress pine in commercial use regardless of height. The total area of native forest was estimated at 41.3 million hectares as at 30 June 1986.

DISTURBANCE TO AUSTRALIAN FORESTS AND WOODLANDS SINCE EUROPEAN SETTLEMENT


Gross (≥ 70% altered)
Substantial (10-69% altered)
Nil/negligible (0-9% altered)
Less than 50% at settlement

This map, produced by CSIRO using the Australian Resources Information System (Cocks et al., 1987) shows the extent to which Australian natural forests and woodlands have been disturbed (usually meaning cleared) since European settlement.

For this map, forests and woodlands are defined as including:

- tree communities with at least 10 per cent projected foliage cover;
- tall (>2 m) Eucalypt shrub communities with at least 10 per cent projected foliage cover (e.g. Mallee);
- mangroves.

Two factors, original vegetation and recent land cover, have been combined to estimate the changes to forests and woodlands since European settlement (Wells et al., 1984).

The percentages shown on this map are conservative, i.e. at *least* these percentages of the original forests and woodlands have been disturbed. Estimates of the percentage of forests and woodlands disturbed in each State are:

> New South Wales, 49%; Victoria, 68%; Queensland, 35%; South Australia, 40%; Western Australia, 31%; Tasmania, 36%; Northern Territory, 0%; Australian Capital Territory, 60%.

Sources:

Cooks, K.D., Walker, P.A. and Parvey, C.A. *Evolution of a Continental Scale Geographic Information System*. Submitted to the International Journal of Geographic Information Systems

Wells, K.F., Wood, N.H. and Laut, P. (1984) *Loss of Forests and Woodlands in Australia: A Summary by State, Based on Rural Local Government Areas*. CSIRO Division of Water and Land Research Technical Memorandum 84/4.

Of the 41.3 million hectares, 30.2 million hectares are in public ownership. The bulk of the 11.0 million hectares of private native forest are not actively managed for wood production and now include 2.4 million hectares of forest in the Northern Territory which were transferred from public to Aboriginal ownership.Of the 30.2 million hectares of public forests, 5.0 million hectares have national park status and 12.9 million hectares are Crown forests, vacant or occupied under lease on which wood harvesting is carried out under government control but are not reserved and actively managed for wood production. Crown forests include 4.3 million hectares of tropical eucalypt and paperbark forests in northern Australia.

Of the 12.3 million hectares of State forests, 0.6 million hectares are special reserves managed for other than wood production purposes and on 4.4 million hectares, wood harvesting is restricted partly because of management priorities for other values and partly due to present economic inaccessibility. This leaves 7.3 million hectares or 17.7 per cent of a total 41.3 million hectares actively managed for wood production.

NATIVE FOREST AREAS CLASSIFIED BY FOREST TYPE, 30 JUNE 1986

('000 hectares)

Forest type group	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Rainforest	265	13	1,237	—	—	499	38	—	2,052
Eucalypt 1	1,207	474	205	—	188	473	—	—	2,547
Eucalypt 2	3,659	4,207	1,290	—	2,764	1,990	—	51	13,961
Eucalypt 3	8,009	577	3,300	—	18	—	—	—	11,904
Tropical eucalypt and paperbark	—	—	4,078	—	—	—	2,450	—	6,528
Cypress	1,819	7	1,686	—	—	—	778	—	4,290
Total	**14,959**	**5,278**	**11,796**	**—**	**2,970**	**2,962**	**3,266**	**51**	**41,282**

NOTES:

1. Eucalypt forests are grouped into productivity classes in descending order of productivity. No specific indices of productivity have been developed for these classes and there can be some overlap, especially between States, in the relative productivity levels used to assign particular forest types to productivity classes.
2. Tropical eucalypt/paperbark not in commercial use.

NATIVE FOREST AREAS CLASSIFIED BY OWNERSHIP, 30 JUNE 1986

('000 hectares)

Ownership category	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Public—	9,738	4,673	10,408	—	2,240	2,294	839	51	30,243
1	3,179	2,699	3,283	—	1,946	1,242	—	—	12,349
2	4,783	500	6,257	—	125	677	524	9	12,875
3	1,776	1,474	868	—	169	375	315	42	5,019
Private	5,221	605	1,388	—	730	668	2,427	—	11,039
Total	**14,959**	**5,278**	**11,796**	**—**	**2,970**	**2,962**	**3,266**	**51**	**41,282**

NOTES:

1. Forest land managed for multiple use including wood production.
2. Crown land vacant or occupied under lease on which wood harvesting is carried out under Government control but not reserved for that purpose.
3. Land on which wood production is excluded (National Parks etc.).

For more details on Australian native forests *see Year Book* No. 61.

Plantations

Tree plantations of a few coniferous species now provide a large part of Australian-grown wood supplies. The large scale establishment of these plantations was commenced by State Forest Services early this century, and in the case of South Australia, last century, to overcome the shortage of native coniferous timber. In an eleven year period covered by the *Softwood Forestry Agreements Acts 1967, 1972* and *1976*, the Commonwealth provided financial assistance to the States in the order of $55 million for an extended program of softwood plantation development. A further Act in 1978 provided funds for a five year period to 30 June 1981 for the maintenance of the area of plantations established previously with Commonwealth funds.

Privately owned plantations amount to almost one-third the area under State ownership. New plantations (including replanting) are currently being established at the rate of 30,000 hectares per annum. A detailed account of the history and development of coniferous plantations and of the characteristics of individual species is included in *Year Book* No. 59. The following table shows total area of plantations in Australia classified by species.

PLANTATION AREAS CLASSIFIED BY SPECIES, 31 MARCH 1986

(hectares)

Species group	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Coniferous—									
Pinus radiata	205,582	186,023	3,181	82,585	46,387	62,011	—	13,707	599,476
Pinus elliottii	5,302	3	90,825	—	262	—	—	—	96,392
Pinus pinaster	—	1,414	—	3,540	27,657	—	—	—	32,611
Pinus caribaea	2,428	3	35,833	—	—	—	2,463	—	40,727
Araucaria	1,561	—	44,143	—	—	—	—	—	45,704
Other	5,293	3,009	4,619	385	303	372	2,701	580	17,262
Total	*220,166*	*190,452*	*178,601*	*86,510*	*74,609*	*62,383*	*5,164*	*14,287*	*832,172*
Broadleaved—									
Eucalptus	—	13,646	1,120	1,182	9,160	11,127	30	—	36,265
Populus	1,965	297	—	—	—	—	—	—	2,262
Other	—	134	637	—	—	1,242	1	—	2,013
Total	*1,965*	*14,077*	*1,757*	*1,182*	*9,160*	*12,369*	*30*	—	*40,540*
Total	**222,131**	**204,529**	**180,358**	**87,692**	**83,769**	**74,752**	**5,194**	**14,287**	**872,712**

Australian Forestry Council

The Commonwealth and the State Governments formed the Australian Forestry Council in 1964 to coordinate the development of the nation's forest resource in the general interest of the community. Membership of the Council comprises the State and Northern Territory Ministers responsible for forestry and the Commonwealth Minister for Primary Industries and Energy. The New Zealand Minister for Forestry has observer status on Council. The Council is serviced by a Standing Committee and specialist subcommittees.

The Australian Forestry Council's current terms of reference are to:

- promote the management of Australian forests for the benefit of the people of Australia;
- advance the welfare and development of the industries based upon these forests;

- facilitate the exchange of information between parties interested in all the uses and the protection of the forests;
- facilitate consultation and coordination between the Commonwealth, State and Territory Governments on forestry matters, especially matters having interstate or national implications;
- formulate and recommend national forest policy for Australia;
- coordinate research into all aspects of forestry including the uses of forests and forest products;
- consider matters submitted to the Council by its Standing Committee.

The Council's National Forests Strategy, which outlines important basic principles and goals associated with the management of Australia's forests as well as providing a framework for the general development of programs and ongoing administration, was tabled in Federal Parliament in November 1986.

In recognition of the need to prepare shorter term statements of forestry management objectives, in 1986 the Council initiated the preparation of a draft Public Land Fire Management statement. Its Standing Committee prepared a position paper on Australian Bushfire Research in 1987.

Research

Commonwealth Scientific and Industrial Research Organization—CSIRO

CSIRO research on forests is mainly undertaken in the Division of Forestry and Forest Products which was formed on 1 January 1988, integrating research on land use and the production and processing of wood. The research s of two main types: longer-term strategic research that will help shape the future of the industry, and collaborative and contract research with individual companies and States. The aims of the Division are to:

- enhance understanding of the ecology and the basis for sustained productivity of forests;
- develop strategies and techniques for management of forests for multiple uses including wood production, water supply and ecosystem conservation;
- develop technologies for increasing the profitability of forest-based industries through efficient use of wood resources and development of new products.

The Division has major laboratories in Melbourne and Canberra, and smaller research groups in Brisbane, Hobart, Mt Gambier and Perth. Work is organised in eight programs, and is normally undertaken in collaboration with State forest services, private companies or universities.

Education

The Australian National University and the University of Melbourne offer undergraduate courses leading to a Bachelor of Science degree in Forestry. Most States provide for sub-professional forestry training.

Each year, the Department of Primary Industries and Energy makes available postgraduate awards for full-time research, leading to the degree of Master and/or Ph.D at an Australian university. The Department also administers an award funded from a private bequest for postgraduate study at Oxford University for one year.

Timber and Timber Products

The selected details shown below have been compiled from the annual census of manufacturing establishments.

The woodchip export industry uses timber which is unsuitable for sawmilling and is not required by the Australian pulp, paper and reconstituted board industries. Before the advent of the woodchip export industry much of this material was left standing in the forest after logging, where it inhibited regeneration. After several cycles of selective logging since European settlement, many forests contained large volumes of over-mature and defective timber for which there was no market. The woodchip export industry, by making it economic to remove this poor quality timber, has enabled degraded forests to be regenerated into faster growing, more productive ones. Considerable quantities of sawmill waste material, which would otherwise be burnt, are also chipped for local pulpwood-using industries and for export.

About 4.5 million tonnes of woodchips worth $260 million were exported from Australia in 1986. Over 95 per cent of Australia's woodchip exports go to Japan where they are used to produce high quality printing and writing papers. The remainder goes to Korea and Taiwan.

MANUFACTURING ESTABLISHMENTS (a)—SUMMARY OF OPERATIONS,1986–87

1983 ASIC (b) code	*Industry description*	*Establishments at 30 June*	*Employment at 30 June (c)*	*Wages and salaries (d)*	*Turnover*
		No.	'000	$m	$m
2531	Log sawmilling	628	11.2	179.7	737.9
2533	Veneers and manufactured boards of wood	78	5.2	108.1	604.6
2537	Hardwood wood chips	9	0.8	23.3	298.1

(a) All manufacturing establishments owned by multi-establishment enterprises and single establishment enterprises with four or more persons employed. *(b)* Australian Standard Industrial Classification. *(c)* Includes working proprietors. *(d)* Excludes the drawings of working proprietors.

TIMBER AND SELECTED TIMBER PRODUCTS (a)

Item		*1984–85*	*1985–86*	*1986–87*
Undressed sawn timber—				
Recovered from sawn logs—				
Australian grown—				
Broadleaved	'000 cu m	1,932	n.a.	2,020
Coniferous	"	1,055	n.a.	1,068
Total	"	**2,987**	**n.a.**	**3,088**
Woodchips (green weight)—				
Hardwood (broad leaved)	'000 tonnes	4,817	n.a.	5,299
Plywood—				
Commercial – (surface measure)	'000 sq m	5,774	n.a.	6,728
(1 mm basis)	"	55,379	n.a.	69,792
Waterproof – (surface measure)	"	1,846	n.a.	1,547
(1 mm basis)	"	15,446	n.a.	12,137
Particle board (resin bonded)	'000 cu m	696	n.a.	745
Wood pulp—				
Mechanical	"	368,050	n.a.	381,567
Other	"	n.a.	n.a.	489,560
Paper—				
Newsprint	tonne	364,685	n.a.	388,066
Printing	"	128,839	n.a.	n.y.a.
Tissue and sanitary papers	"	116,416	n.a.	137,748
Wrapping (incl. kraft)	"	335,668	n.a.	378,737
Writing and duplicating *(b)*	"	92,788	n.a.	79,087
Other paper (incl. blotting)	"	38,271	n.a.	n.y.a.
Paperboard (incl. strawboard)	"	501,793	n.a.	n.y.a.

(a) Excludes production of small single establishment enterprises with fewer than four persons employed and establishments engaged in non-manufacturing activities but which may carry on, in a minor way, some manufacturing. *(b)* Includes cartridge.

FISHING

Source and basis of statistics

Statistics presented in this section are obtained from the Australian Bureau of Agricultural and Resource Economics (ABARE) and the Australian Fisheries Service, Department of Primary Industries and Energy. The Australian Bureau of Statistics (ABS) has reduced its involvement in the collection of fisheries statistics. The ABS no longer publishes statistics on the Australian fishing industry.

Australian fisheries production statistics are generally in terms of the form in which the products are taken from the water. For example, the statistics of fish production published in this chapter are in terms of 'estimated live weights' which are calculated from landed weights by using conversion factors for each species in each State. These conversion factors allow for the fact that the quantities of fish reported are frequently in a gutted, headed and gutted, or otherwise reduced condition. Crustaceans are reported on an 'estimated live weight' basis and molluscs (edible) on a 'gross (in-shell) weight' basis. The figures for pearl shell and trochus shell refer to the actual quantities of dry shell for sale and exclude the weight of the animal.

For more details of employment and boats and equipment for general fisheries and particulars of the whaling industry *see* earlier *Year Books.*

Fisheries Resources and their Commercial Exploitation

Over 3,000 species of marine and freshwater fish occur in and around Australia and at least an equal number of crustacean and mollusc species. Despite this, less than 100 of these are commercially exploited. Australia's major commercially exploited species are prawns, rock lobster, abalone, tuna, other fin fish, scallops, oysters and pearls. Australian fishing operators concentrate their efforts on estuarine, coastal, pelagic (surface) species and demersal (bottom living) species that occur on the continental shelf.

Fin fish

Off north Australia, barramundi (*Lates calcarifer*) constitutes the most important estuarine and coastal species, while in the south-east and south-west regions, mullet (mainly *Mugil cephalus*), bream (*Acanthopagrus* spp.), Australian salmon (*Arripus trutta*) and Australian herring (*Arripus georgianus*) are important catch components.

Major pelagic fisheries are southern bluefin tuna (*Thunnus maccoyii*) off southern Australia, jack mackerel (*Trachurus declivis*), snoek (*Leionura atun*), pilchards (*Sardinops neopilchardus*) and anchovies (*Engraulis australis*) off south-east Australia and Spanish mackerel (*Scomberomorus commersoni*) off north Australia. A long line fishery for yellow fin tuna (*Thunnus albacares*), big eye tuna (*Thunnus obesus*) and other tunas has developed substantially in recent years off the east coast of Australia.

A large multispecies demersal fishery that targets on flathead (*Neoplatycephalus* and *Platycephalus* spp.), morwong (*Nemadactylus* spp.), redfish (*Centroberyx affinis*), gemfish (*Rexea solandri*), orange roughy (*Hoplostethus atlanticus*), trevally (*Pseudocaranx dentex*) and blue grenadier (*Macruronus novaezelandiae*), exists off south-east Australia. Demersal inshore snapper (*Chrysophrys auratus*) fisheries exist off south-west and south-east Australia; in the latter region, stocks of whiting (*Sillaginidae*) are also fished. In the northern tropical region, reef fish such as cods (*Epinephelus* spp.) are exploited. A large demersal fishery for school and gummy sharks (*Galeorhinus australis* and *Mustelus antarcticus*, respectively) is centred in Bass Strait.

Crustaceans

Prawns (*Penaeus* and *Metapenaeus* spp.) provide the most valuable fishery in Australia and are taken in estuarine, coastal and offshore waters of all States except Tasmania. The largest prawn fishery, the northern prawn fishery, is located in northern Australia from Cape York (Queensland) to Cape Londonderry (Western Australia). The western and southern rock lobsters (*Panulirus longipes cygnus* and *Jasus novaehollandiae*), also a valuable resource, are taken on rocky reefs around the southern half of Australia. Deep water fisheries are developing off the north-west shelf for prawns, scampi and lobsters, and off Western Australia where prawns, scampi, lobsters, crabs, squid and fin fish are taken. Bay lobsters (*Thenus* spp. and *Ibacus* spp.) are taken incidentally toprawn trawling operations. Crabs (*Scylla* spp. and *Portunus* spp.) are taken mainly in Queensland, New South Wales and Western Australia. Tropical rock lobsters are taken in the Torres Strait fishery along with prawns and fin fish.

Molluscs (edible)

Naturally-occurring oysters are harvested in all States; in New South Wales and Queensland the Sydney rock oyster (*Crassostrea commercialis*) is cultured commercially. The introduction of the Pacific oyster (*Crassostrea gigas*) to Tasmania, Victoria, and South Australia has proven successful. Production is planned to increase significantly and presently accounts for over 12 per cent of total oyster production. Following a serious decline in catches in the scallop (*Pecten meridionalis*) fishery based on stocks in Port Phillip Bay in Victoria, new offshore beds were located in southern New South Wales, eastern Victoria, northern Tasmania and south-west Western Australia. However, substantial fluctuations in abundance have resulted in erratic production from year to year. Fisheries based on the saucer scallop (*Amusium balloti*) are centered on Harvey Bay, Queensland and in Shark Bay, Western Australia. An important abalone (*Haliotus* spp.) fishery exists in south-east Australia with Tasmania, Victoria and South Australia providing the bulk of the catch. There is also a small abalone fishery in south-west Western Australia. Mussels (*Mytilus planulatus*) are harvested in Victoria, Western Australia and New South Wales. Small quantities of cephalopods, mainly squid, were produced in many localities. Feasibility fishing located promising squid resources (*Nototodarus gouldi*) in the south-east. Squid (*Loligo* spp.) form an important component to the trawl catch in the Arafura Sea.

Pearl shell and trochus shell

The shell of the Australian species of pearl oyster (*Pinctada maxima*) is taken from various localities in the tropical waters of Australia, between Broome in Western Australia and Cairns in Queensland, for the manufacture of buttons, knife handles, etc. Live pearl shell is used for pearl culture, *Pinctada maxima* being capable of producing pearls which are the largest in the world and which command top market prices. Trochus shell is found mainly on coral reefs off the Queensland coast, although small quantities occur in Western Australia.

Aquaculture

Australia has enjoyed a relatively long history of success in the farming of the Sydney rock oyster. Pearl culture operations and goldfish farming are well established. The production of juveniles of several species of fin fish, molluscs and crustaceans has been undertaken for some years, initially for restocking wild populations and subsequently for grow-out operations. As in many other developed countries, there has been a surge of interest and investment in many types of aquatic farms over the last decade. Notable successes are the salmonid industry in Tasmania, consisting of about 25 farms, and commercial cultivation of the Pacific oyster, blue mussel and rainbow trout.

Developmental work is active in a number of areas such as barramundi, freshwater crayfish (yabbies and marron), prawns, mussels and algae. Research is continuing into the hatchery rearing of species such as abalone, scallops, giant clams, flat and pearl oysters.

Whales

Whales are now a protected species in the Australian Fishing Zone (AFZ).

Foreign fishing

Establishment of the 200 nautical mile AFZ in 1979 covering a total of 8.9 million square kilometres, brought portions of oceanic tuna stocks, and demersal and pelagic fish stocks previously exploited by foreign fishing vessels, under Australian control.

Australia has an international obligation under the Law of the Sea Convention, to allow foreign nations access to resources within the Australian Fishing Zone, that are surplus to domestic fisheries requirements and where such access does not conflict with Australian management and development objectives.

Licensed vessels from Japan, Korea, Thailand and Taiwan are currently permitted to operate in Australian waters either under bilateral agreements or joint venture arrangements with foreign Governments or fishing companies/organisations.

Foreign fishing operations by Taiwan and Thai interests in the demersal trawl fishery off the north and north-west coast take a wide range of tropical demersal fish species, including threadfin bream (*Nemipteridae*), tropical snappers (*Lutjanidae*), emporers (*Lethrinidae*), goatfish (*Mullidae*) and hair tails (*Trichuiridae*). Following the introduction of controls on the length of gillnets which can be used, foreign pelagic gillnet operations have ceased. Japan is permitted, under agreement, to long line, principally for tunas, off certain areas of Australia. There is also an agreement with the Republic of Korea to allow squid jigging in a designated area off Tasmania, Victoria and South Australia.

Fisheries Administration and Research

The Commonwealth Parliament has enacted a number of laws dealing with fisheries in Australian waters beyond territorial limits. The fisheries laws of the Sates and the Northern Territory apply to all kinds of fishing within the territorial sea and inland waters. These laws require the licensing of persons and boats in the commercial fisheries and provide a range of other regulatory powers. The Commonwealth laws relating to fishing are outlined below.

Fisheries Act 1952

This Act applies to commercial fishing for swimming species, by Australians in waters extending from 3 to 200 nautical miles seaward of the territorial sea baseline of Australia and external territories excluding the territorial sea of another country, and by foreign boats in the 200 nautical mile AFZ. The AFZ comprises waters which extend 200 nautical miles seaward of Australia's territorial sea baselines but does not include waters within exclusive fishing zones of adjacent countries or waters adjacent to Australia's Antarctic Territory.

This Act, together with the following two Acts, requires the holding of licences and empowers the Minister to prohibit fishing activities as necessary for the conservation of resources and the management of the fisheries. The Fisheries Act authorises the publication of management plans having the force of law in relation to particular fisheries.

Continental Shelf (Living Natural Resources) Act 1968

This Act regulates the searching for and taking, from the continental shelf of Australia and the external territories, of living sedentary species by Australians and foreigners. Sedentary species are those that, at the harvestable stage, are either immobile on or beneath the seabed or are unable to move except in constant physical contact with the seabed. The continental shelf is the seabed beyond the territorial sea and adjacent to permanently exposed land masses, extending to a depth of 200 metres or, beyond that depth, to where the exploitation of the seabed is possible.

Torres Strait Fisheries Act 1984
This Act gives effect in Australian law to the fisheries elements of the Torres Strait Treaty. The Act applies in the area of Australian jurisdiction in the Torres Strait Protected Zone and areas outside but near that zone proclaimed in respect of particular fisheries which Australia and Papua New Guinea have agreed to manage jointly under the Treaty, or which are referred to in the Treaty.

Foreign Fishing Boats Levy Act 1981; *Fisheries Agreements (Payments) Act 1981*
These Acts facilitate the imposition and collection of access fees for foreign boats fishing in the AFZ.

Fisheries Levy Act 1984
This Act imposes a levy on prescribed classes of licences under the *Fisheries Act 1952* or the *Torres Strait Fisheries Act 1984* or on units of fishing capacity created by management plans under the first of those Acts. Levies are applied to recover costs of management and administration.

Administration

Australian fisheries are administered by the authority having jurisdiction over the waters concerned. In inland waters and in waters within territorial limits, administration is the responsibility of the State or Territory fisheries authority. In proclaimed waters, and on the continental shelf beyond territorial limits, administration is the responsibility of the Commonwealth Government which, by agreement, has delegated to State Fisheries Authorities the necessary authorities for day-to-day administration of the Acts.

The Commonwealth and all State and Northern Territory parliaments have enacted amendments to fishery laws for the purpose of implementing the fisheries elements of the Offshore Constitutional Settlement (OCS) adopted by the Premiers' Conference in 1979. Those amendments, which came into force on 14 February 1983, authorise the Commonwealth and one or more States to enter into a formal legal arrangement to apply a single law (Commonwealth or State) to the management of a particular fishery from low water mark and to vest executive power under that law in:

(i) a joint authority, the membership of which would comprise the Commonwealth and the relevant State or States;

(ii) a State alone; or

(iii) the Commonwealth alone.

OCS arrangements are now in force between the Commonwealth and the Northern Territory and all States except New South Wales. OCS arrangements simply rationalise jurisdiction and do not specify new rules for management of the fisheries concerned.

The administration of the fisheries is directed to a number of objectives. The two most important are conservation and management of the living resources of the AFZ to ensure that they are not endangered by over exploitation; and achievement of the optimum utilisation of the living resources by the Australian fishing industry and foreign interests. Consistent with these objectives a number of controls have been introduced to prevent the depletion of the more heavily fished species and to ensure the optimum utilisation of resources. These controls take the form of individual transferable catch quotas, seasonal and area closures, gear limitations, minimum size requirements and limited access rights as well as outright prohibitions on the taking of certain species.

Formal management arrangements have been implemented or are being developed for all Australian fisheries which are now under Commonwealth control. The aim is to conserve the resource while promoting development and improving the economic performance of the industry. Special emphasis is being placed on the development of Australia's under-utilised species and the discovery of new resources. The Government has encouraged the fishing industry to participate more fully in fisheries management. Extensive consultations between government officials, scientific agencies, industry associations and recreational fishermen have become strong features of the decision making process.

Research

The main aim of fisheries research in Australia is to provide a background of biological, technical and economic information which will provide guidance for the efficient and rational utilisation of fisheries resources. To this end much of the research already undertaken has been directed at formulating recommendations for management of various fisheries. Research work, including feasibility fishing projects involving foreign fishing vessels, is also carried out and is expected to lead to the development of new fisheries, the expansion of under-exploited fisheries, greater economy in operations and the use of more efficient equipment and methods.

The Fisheries Development Trust Account (established under the *Fishing Industry Act 1956*) and the Fishing Industry Research and Development Trust Account (established under the *Fishing Industry Research and Development Act 1987*) are available to support, financially, projects for the development and management of the fisheries and fishing industry which are consistent with the purposes of those Acts. The former was established with the proceeds of the sale of the assets of the Australian Whaling Commission and is replenished from Consolidated Revenue as necessary. The latter is a matching fund into which is paid each year an appropriation from Commonwealth Government Revenue equal to amounts collected from the fishing industry by the State Fisheries Authorities and paid into appropriate State research accounts for the same purpose.

Organisations in Australia at present engaged in research into fisheries matters are:

(i) CSIRO division of Fisheries Research, which has its headquarters and main laboratory at Hobart, Tasmania, and regional laboratories in Western Australia and Queensland (fisheries science)

(ii) CSIRO Division of Oceanography, which has its headquarters and laboratory at Hobart, Tasmania;

(iii) CSIRO Division of Food Research, conducts research into handling, storage, processing and transportation of fish at its laboratory in Hobart, Tasmania;

(iv) The Australian Fisheries Service, Department of Primary Industries and Energy, Canberra;

(v) Bureau of Rural Resources, Department of Primary Industries and Energy, Canberra;

(vi) Australian Bureau of Agricultural and Resource Economics, Department of Primary Industries and Energy, Canberra (economic and marketing research);

(vii) State fisheries departments. Research vessels are operated by New South Wales, Victoria, Queensland, Western Australia, South Australia and Tasmania;

(viii) Great Barrier Reef Marine Park Authority (GBRMPA) located in Townsville and Canberra;

(ix) Universities; and

(x) private fishing companies (surveys of fisheries resources, research into handling, processing and marketing).

Boats and Equipment Used in Fisheries

Fish, crustaceans and molluscs

The boats used for the estuarine fisheries are mostly small vessels propelled by diesel or petrol engines of low power. The offshore vessels range up to 40 metres in length and are almost invariably powered by diesel engines. Most of them have either insulated holds and carry ice, or are equipped with dry or brine refrigeration. Some rock lobster vessels are fitted with wells in which the catch is kept alive.

The following are the types of equipment most commonly used in the main fisheries: *mullet*—beach seine, gillnet; *shark (edible)*— long-lines, gillnet; *Australian salmon*—beach seine; *snoek*—trolling lines; *flathead*—Danish seine, otter trawl; *snapper*—long-lines, traps, gillnet, handline; *morwong*—Danish seine, otter trawl, traps; *whiting*—handline, otter trawl, Danish seine, beach seine, gillnet; *garfish*—beach seine; *Spanish mackerel*—trolling lines; *tuna*—pole and live-bait, purse seine, trolling lines (lampara nets and purse seines are used for taking live bait for tuna); *prawns*—otter trawl, beam trawl, beach seine net; *rock lobster*—pots, traps; *scallops*—dredge, otter trawl; *abalone*—diving using hookah gear; *pilchards, anchovies, jack mackerel and stripped tuna*—purse seine; *pearl shell oysters*—diving; *squid*—jigging, otter trawl; *crabs*—traps, otter trawl; *barramundi*—gillnet; and *orange roughy*—otter trawl.

Ketch-rigged luggers about 15 metres long which carry crews of eight to fourteen members are used for pearl shell fishing in northern Australia.

Production, Processing and Domestic Marketing of Fisheries Products

Value of fisheries production

The following table shows the gross value of the Australian commercial fishing industry. As the value of materials used in the course of production is not available, it is not possible to show a comparison of net values. Gross value of production is the value placed on recorded production at the wholesale price realised in the principal markets. In general, the 'principal markets' are the metropolitan markets in each State, although, in cases where commodities are consumed locally or where they become raw material for a secondary industry, these points are presumed to be the principal markets. Gross value includes marketing costs which were estimated at $18.8 million for Australia for the year 1979–80. Details on marketing costs are not available for 1980–81 and subsequent years.

FISHERIES: GROSS VALUE OF PRODUCTION

($ million)

1970–71	73	1979–80	299
1971–72	86	*(a)*1980–81	330
1972–73	93	*(a)*1981–82	344
1973–74	100	*(a)*1982–83	423
1974–75	100	*(a)*1983–84	449
1975–76	135	*(a)*1984–85	524
1976–77	194	*(a)*1985–86	595
1977–78	218	*(a)*1986–87	735
1978–79	265	*(a)*1987–88	850

(a) Estimates provided by the Australian Bureau of Agricultural and Resource Economics and the Australian Fisheries Service.

NOTE: Figures exclude non-edible production, but may include the value of production of fishmeal and petfood.

SELECTED MAJOR FISHERIES CATEGORIES: GROSS VALUE (a)

($ million)

	1984–85 *$ million*	*1985–86* *$ million*	*1986–87 (b)* *$ million*
Prawns	164.0	190.0	220.0
Rock lobster	172.0	166.0	186.0
Tuna *(c)*	14.1	16.5	43.7
Shark	12.4	12.0	15.0
Other fin fish *(d)*	75.6	90.0	122.0
Fish n.e.i. *(e)*	2.5	6.0	7.8
Abalone	35.4	59.7	84.0
Scallops	19.5	24.4	25.1
Oysters	28.5	30.0	31.2
Total	**524.0**	**594.6**	**734.8**

(a) Excludes non edible products. (b) Estimated by the Australian Bureau of Agricultural and Resource Economics. *(c)* Excludes sashimi production prior to 1986–87. *(d)* For human consumption. *(e)* Not for human consumption.

Processing of fish, crustaceans and molluscs

There is very little value added processing of fish products in Australia. Processing establishments vary in size, scope of operations and sophistication of technologies employed. The majority of establishments undertake only the most basic cleaning, filleting, packing and freezing processes, but others have the capacity for significant product transformation.

Processing plants are located strategically throughout Australia close to fishing grounds.

Rock lobsters, prawns, abalone, tuna, scallops and some fin fish are frozen for export; tuna, snoek, Australian salmon and abalone are canned; small amounts of fish are smoked; and some molluscs are bottled. Hand labour is still used extensively in processing operations, but mechanisation is being progressively introduced.

Ice is used extensively for the chilling of fish taken in estuarine and inshore fisheries. Refrigeration is used particularly on vessels operating in the tuna and prawn fisheries to chill or freeze the catch. An increasing range of fish products, including fresh-chilled tuna, live rock lobster, abalone and sea urchin roe, are being air-freighted to export markets, particularly Japan.

Fish, crustaceans and molluscs intended for export are processed in establishments registered under the Export (Fish) Regulations. Edible fish for local consumption is mainly dispatched fresh-chilled to markets.

Pearls, pearl shell and trochus shell

PEARL CULTURE AND PEARL AND TROCHUS SHELL FISHING OPERATIONS (a)

(*Source*: **Department of Primary Industries and Energy**)

		1985	*1986*	*1987*
	QUANTITY			
Pearl and Trochus shell fishing operations—				
Production of—				
Pearl shell *(b)*	tonnes	117	196	342
Trochus shell	tonnes	n.p.	n.p.	n.p.
Natural pearls	momme *(c)*	n.p.	n.p.	n.p.
Pearl culture operations—				
Live shell introduced	No.	173,577	145,626	96,637
	tonnes	56	51	47
Production—				
Round and baroque pearls	No.	54,040	25,850	3,822
	momme *(c)*	53,761	21,965	2,690
Half pearls	No.	185,083	112,617	60,780
Manufacturing shell	tonnes	53	19	10
	VALUE ($'000)			
Pearl and Trochus shell fishing operations—				
Production of—				
Live pearl shell		1,831	2,507	5,348
Pearl shell		248	82	384
Trochus shell		n.p.	n.p.	n.p.
Natural pearls		n.p.	n.p.	n.p.
Pearl culture operations—				
Production of—				
Round and baroque pearls		13,616	5,794	1,028
Half pearls		1,289	1,099	546
Manufacturing shell		117	38	48

(a) Figures refer to the fishing season commencing in the years shown. *(b)* Excludes manufacturing shell produced from pearl culture operations. *(c)* A pearl weight measurement equivalent to 3.769 grams.

Marketing of fisheries' products

Exports of fisheries products comes under Commonwealth jurisdiction, while domestic market activity comes under that of the corresponding State or Territory.

Although a substantial proportion of the Australian salmon, and to a lesser extent tuna catches are canned, the greater part of Australian fish production is marketed fresh-chilled.

Marketing arrangements for fresh fish vary. In New South Wales, fish marketing is the responsibility of the Fish Marketing Authority which operates the Metropolitan Fish markets. In other coastal centres of New South Wales, fishing cooperatives may become registered as local fish markets. In Queensland, fishermen must sell their catch to a licensed processor or a licensed commercial buyer. Exceptions exist for fish intended for interstate trade. In Victoria, Western Australia, South Australia and Tasmania, there is no restriction on market outlets. In Victoria, Western Australia and South Australia, most fish are sent to metropolitan wholesale fish markets for auctioning; small quantities are processed for sale locally, chiefly by cooperatives. Nearly all fresh fish in Tasmania is consigned direct to processors. The principal outlets for fish products in Australia are retail and catering establishments.

A high proportion of Australian seafood production is exported and domestic prices increasingly reflect the conditions on export markets. The Australian industry exports 40 per cent of total fish production, but depends on export markets for over 70 per cent of its revenue. The Australian fisheries export industry depends on a limited range of products sold on a few major markets, with Japan and the United States accounting for about 80 per cent of the value of our exports.

Australian fisheries supply domestic markets with fresh and frozen table fish, but do not produce sufficient to meet demand. Over 60 per cent of seafood consumed in Australia is imported, mostly in the form of fresh, chilled or frozen fish. Prawns and canned fish also are significant imported items.

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15

MINERAL INDUSTRY

Geology and Mineral Resources

General geology

Most of the western and central part of the Australian continent consists of basement rocks of Precambrian age. Younger Palaeozoic rocks, mostly of geosynclinal origin, form a discontinuous belt several hundred kilometres wide extending from north Queensland to Tasmania. Mesozoic platform sediments form a broad zone separating the Palaeozoic and Precambrian rocks and extending from the Gulf of Carpentaria to central New South Wales. Cainozoic rocks occur mainly in Victoria, south-western New South Wales and southern South Australia, and as residual basalt cappings over extensive areas of the Palaeozoic rocks of eastern Australia.

Economic geology

Minerals of economic significance occur throughout Australia, their geological age ranging from Precambrian to Recent. Many of the large deposits such as those at Broken Hill (New South Wales), Mount Isa (Queensland), Olympic Dam (South Australia) the Kalgoorlie and Pilbara regions of Western Australia and the Alligator Rivers area of the Northern Territory are Precambrian in age. In eastern Australia the major deposits such as the Elura, Cobar, Woodlawn and Rosebery base-metal deposits and most of the black coal deposits, are Palaeozoic in age. The black coals of the Moreton district of Queensland, north-east New South Wales and Leigh Creek, South Australia are of Mesozoic age. Deposits formed in Tertiary times include the brown coal in Victoria, the bauxites of Weipa (Queensland), Gove (Northern Territory) and the Darling Range (Western Australia) and the nickeliferous laterites at Greenvale (Queensland).

Mineral resources

Australia is self-sufficient in most minerals of economic importance (and much more than self-sufficient in some). Major minerals with known reserves adequate for domestic demand and exports include bauxite (aluminium), black coal, clays, copper, diamonds, gold, iron ore, lead, manganese, natural gas, nickel, salt, silver, tin, uranium and zinc.

A special article on the development of Australia's mineral industry is included at the end of Chapter 15 of *Year Book* No. 71, pages 592–598. For further details of principal Australian mineral deposits, and notes on principal mineral resources, *see Year Book* No. 61, pages 925–932 and the Australian Mineral Industry Quarterly and Annual Reviews.

Administration

All mineral rights in Australia are vested in the Crown except those on land which was granted before the Crown began to reserve mineral rights. In practice, these private mineral rights are not important. In the States, these rights are held by the State governments. On 1 July 1980, executive authority with respect to mining and minerals except in relation to certain prescribed substances within the meaning of the Atomic Energy Act (principally uranium) was transferred from the Commonwealth Government to the Northern Territory Government. Private mineral rights in the Australian Capital Territory are vested in the Commonwealth Government. The Commonwealth Government is able also to influence overall development and production activity in the mineral industry by virtue of its statutory powers with respect to international trade, customs and excise, taxation and loan raisings. Certain specially-formed bodies such as the Joint Coal Board have been given administrative responsibility in defined areas. The government has also established consultative mechanisms, such as the Australian Coal Consultative Council, to provide an advisory, rather than administrative, role.

Mineral exploration and development

Onshore

Each State or Territory has its own mining Acts or Ordinances and Regulations governing the prospecting for and working of mineral deposits. These Acts and Regulations, although similar in principle are different in detail. They all make provision for a miner's right to prospect and for small mining leases for mineral production. The principles embodied were established many years ago when mining operations were generally small-scale and labour-intensive. Although amendments have been enacted to modernise the legislation, it is generally inadequate for the large-scale capital-intensive operations often involved with modern mineral development. For this reason, a large enterprise may take the course of acquiring mining titles by negotiations with the appropriate Minister for Mines and having the agreed terms and conditions embodied in an Act of the State Parliament. This method of acquisition has been used in several cases where the leasing company undertook an obligation (such as the erection of a large treatment works) in return for leases over large areas for a long period, and has become more common in recent years (e.g. iron ore in Western Australia, coal and bauxite in Queensland and bauxite in the Northern Territory). Mining legislation enacted in recent years is simpler and more suited to modern conditions.

As a result of the introduction of large-scale modern prospecting methods (particularly airborne prospecting), small prospecting areas were found to be unsuitable in some instances, and steps have been taken in the States and Territories to ensure the availability of large areas for prospecting by interested persons. Large areas may be made available by provision within the mining Acts or Ordinances for the issue of authorities to prospect over an area defined by a written agreement which also sets out provisions as to the amount of money to be spent, methods of prospecting, tenure of the agreement, etc.

The tenure of such areas is limited (usually to one or two years) and, if renewed for a further period, is only over an area selected from the larger area (usually 50 per cent) as a result of work done during the life of the initial agreement. It does not give the holder any rights over, or authority to prospect on, land already held under a mining title within the agreed area. Unless specifically stated in an agreement, the discovery of minerals, whether inside or outside an area covered by an authority to prospect, gives the discoverer no legal rights except the right to apply for a mining lease over the area in which the discovery was made. Suitable prospects are converted to mining tenements by making application for lease under the appropriate mining Act.

Offshore

Following the enactment of the *Seas and Submerged Lands Act 1973* the High Court confirmed that the Commonwealth has sovereignty over the territorial sea and sovereign rights over the resources of the whole of Australia's continental shelf. However, in the Offshore Constitutional Settlement between the Commonwealth and the States reached in June 1979, it was agreed that responsibility for mining of the seabed on the landward side of the outer limit of the 3 nautical mile territorial sea should lie with the States, while the Commonwealth should have responsibility for areas beyond.

The *Minerals (Submerged Lands) Act 1981* passed by the Commonwealth Parliament in June 1981 follows the scheme of the offshore petroleum legislation amendments passed in 1980 and provides for joint Commonwealth–State authorities to be responsible for major matters under the legislation with the States being responsible for day-to-day administration. The Commonwealth is working with the States to expedite the implementation of the Minerals (Submerged Lands) Act by all governments. In the meantime administration of offshore mining is carried out under the States' onshore mining legislation on an interim basis.

The mining code under the new legislation provides for a two-stage system of titles: the exploration permit, which covers all forms of exploration, and the production licence, which covers development.

Petroleum exploration and development

Onshore

In Australia full control of petroleum mining rights is vested in the government or administration of each State or Territory. Any company, organisation or individual proposing to undertake petroleum exploration or development must first satisfy the government concerned that the necessary financial and technological resources are available to carry out the operation.

There are three main types of petroleum title:

(i) the exploration title, where the holders are typically given exclusive rights over the area to conduct petroleum exploration, including the drilling and testing of wells;

(ii) the production title, which is required for commercial production of petroleum and gives the holder the right to produce and sell the petroleum subject to the payment of a royalty calculated as a fixed percentage of the well-head value of the petroleum produced; and

(iii) the retention licence enacted in the Northern Territory, covering onshore petroleum exploration and production under the *Petroleum Act 1984* and is intended to allow tenure over currently non-commercial discoveries.

Royalty arrangements vary from State to State. All States and the Northern Territory determine royalties derived from onshore production as a percentage of the derived well-head value of all petroleum production.

The Commonwealth has passed legislation that provides for the replacement of all Commonwealth excise on liquefied petroleum gas and crude oil, and State ad valorem royalty, with a resource rent royalty where the relevant State government has negotiated an acceptable agreement with the producers and has agreed upon a satisfactory revenue sharing formula with the Commonwealth.

Offshore

As part of the Offshore Constitutional Settlement between the Commonwealth and the States, responsibility for administering petroleum exploration and production within the outer boundary of the three nautical mile territorial sea rests with the relevant State or Territory while the Commonwealth has responsibility for the continental shelf beyond the territorial sea. The *Petroleum (Submerged Lands) Act 1967* provides for a Joint Authority for the adjacent area of each State and the Northern Territory (beyond the territorial sea limit) consisting of the Commonwealth Minister and the State/Territory Minister. The Joint Authorities are concerned with major matters arising under the legislation and in the case of disagreement the view of the Commonwealth Minister prevails. Day-to-day administration is the responsibility of the State or Territory Minister as the Designated Authority and State or Territory officials.

The mining code applicable under the legislation provides for a three stage system of titles: the exploration permit, which covers all forms of exploration including drilling, the retention lease which provides tenure over currently non-commercial discoveries and the production licence, which covers development and production.

Availability of exploration acreage

As part of the government's aim to encourage petroleum exploration, regular releases of offshore exploration acreage are made.

Mineral royalties

The collection by governments of royalties for the production of minerals within their area of authority is an internationally-accepted practice. In Australia, the responsibility for mineral royalties is largely a State concern, and all States currently collect some form of mineral royalty payments.

In recent years there has been an important basic change in the system of establishing royalty commitments, and it is now quite common for State governments to negotiate special royalty rates with companies which are seeking mineral leases for large scale developments. These royalty rates may vary, depending on whether production is for export or for domestic processing. The rates for a particular mineral may also vary between producers. Important examples of this type of royalty agreement are the iron ore development agreements in Western Australia and coal development agreements in Queensland. Mineral royalties received by governments in recent years are shown in the following table.

MINERAL ROYALTY RECEIPTS: GOVERNMENTS
($'000)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
New South Wales*(a)*	88,186	105,403	111,100	109,558	119,315	136,295
Victoria*(b)(c)*	108,782	124,861	180,585	206,086	213,292	157,991
Queensland*(a)*	81,450	89,793	107,673	142,640	196,413	176,751
South Australia	8,811	9,321	14,172	27,739	58,352	33,592
Western Australia	81,330	102,454	*(d)*168,477	131,640	162,208	154,056
Tasmania	2,209	2,082	2,137	1,043	1,507	1,641
Northern Territory	3,020	2,934	3,963	5,483	8,079	7,186
Commonwealth Government*(c)*	56,580	83,609	103,535	114,330	187,091	119,806
Total	**430,368**	**520,457**	**691,642**	**738,519**	**946,257**	**787,318**

(a) Includes royalties on sand and gravel from Crown lands. *(b)* Includes royalties on brown coal paid by State Electricity Commission. *(c)* Includes royalties received under the *Petroleum (Submerged Lands) (Royalty) Act 1967–68*. *(d)* Includes prepaid royalty of $50 million in respect of diamond royalty agreement.

Joint Coal Board

The Joint Coal Board was established in 1946 under joint legislation of the Commonwealth Government and of the State of New South Wales to carry out special functions in regard to the New South Wales black coal mining industry. In summary, the Board's functions are to:

- ensure that coal is produced in the State of New South Wales in such quantities and with such regularity as will meet requirements throughout Australia and in trade with other countries;
- ensure that the coal resources of the State are conserved, developed, worked and used to the best advantage in the public interest;
- ensure that coal produced in the State is distributed and used in such manner, quantities, classes and grades, and at such prices as are calculated best to serve the public interest and secure the economical use of coal and the maintenance of essential services and industrial activities;
- promote the welfare of workers engaged in the coal industry in the State.

Government Assistance

The Commonwealth Government and the various State governments provide assistance to the mineral industry in a variety of ways. The main forms of assistance are discussed on the following pages.

Commonwealth Government assistance

Assistance provided by the Commonwealth Government takes the form of income taxation concessions, subsidies, bounties, and technical assistance, mainly through the work of the Bureau of Mineral Resources, Geology and Geophysics (BMR) and the Commonwealth Scientific and Industrial Research Organization (CSIRO) as well as through the National Energy Research, Development and Demonstration Program.

Income taxation concessions as at 30 June 1988

Income derived from mining, principally for gold, in Australia is exempt from tax. The exemption is also available in respect of income derived from mining principally for gold and copper if the value of the gold obtained is not less than 40 per cent of the value of the total output (excluding the value of pyrites).

Special deductions for capital expenditure incurred in prospecting and mining for petroleum (including natural gas) are allowable to a petroleum mining enterprise engaged in these operations in Australia. Capital expenditure allowable to petroleum mining enterprises includes, broadly, the amount of successful cash bids and the costs of exploratory surveys, drilling and well-head plant; plant for the liquefaction of natural gas; access roads; and housing and welfare. The enterprise is entitled to these special deductions against income from any source although in the case of cash bids, the deduction only becomes available if a production licence is granted. While the special deductions for prospecting expenditure are deductible immediately against the net income of the enterprise, the deductions for capital expenditure on mining are allowable over the life of the oil or gas field or over ten years, whichever is the lesser, on a straight line basis.

An enterprise mining or prospecting for minerals other than petroleum and gold may also be allowed special deductions for capital expenditure. Broadly, allowable capital expenditure includes expenditure on exploration and prospecting; preparation of a site for extractive mining operations; buildings; other improvements and plant necessary for those operations; access roads; certain treatment plant; and housing and welfare.

The allowable capital expenditure of a general mining enterprise, other than costs of exploration, may be deducted against income from any source over the life of the mine or over ten years, whichever is the lesser, on a straight line basis. Expenditure incurred by a general mining enterprise in exploring for minerals is deductible immediately against the net income of the enterprise from any source. Undeducted exploration and development expenditure of general mining and petroleum companies may be carried forward indefinitely, although in respect of such expenditure actually incurred in 1985–86 and subsequent financial years the companies may elect to have such undeducted expenditure treated as carry-forward losses transferable to another company in the same group.

Annual deductions for depreciation on petroleum mining plant or general mining plant may be allowed in lieu of spreading the cost over the life of the oil field or mine. The cost of exploration plant may also be deducted under the depreciation provisions of the law. The investment allowance scheme may permit a deduction at the rate of 18 per cent of the cost of certain new plant, provided it was contracted for (or construction commenced) before 1 July 1985 and is the first used for the purpose of producing assessable income, or installed for such use, before 1 January 1988.

Special deductions are allowable for capital expenditure incurred on certain transport facilities for use in Australia primarily and principally, for the transport of raw minerals (other than petroleum or gold) and certain specified products obtained from the processing of such minerals, or for transporting petroleum between the oil or gas field and a refinery or other terminal. The special deductions apply to expenditure incurred on a railway, road, pipeline or similar transport facility and on certain port facilities or other facilities for ships. Allowable expenditure on transport facilities is deductible in equal annual instalments over a period of ten or twenty years at the option of the mining enterprise.

Bureau of Mineral Resources, Geology and Geophysics—BMR

The role of BMR is to:

- develop an integrated, comprehensive, scientific understanding of the geology of the Australian continent, the Australian offshore area and the Australian Antarctic Territory, as a basis for minerals exploration; this to be done where appropriate in cooperation with State Geological Surveys and other relevant organisations and having regard to priorities for the search for minerals approved by the Minister for Primary Industries and Energy;
- be the primary national source of geoscience data and to publish and provide information;
- undertake mineral resource assessments in accordance with programs and priorities approved by the Minister for Primary Industries and Energy with the advice of the BMR.

At 31 August 1987, BMR had a full-time staff of approximately 565 people, including 245 research and other scientists, (geologists, geophysicists, chemists, engineers, and mineral economists etc.), 215 technical and cartographic and around 105 clerical and other support staff.

BMR's research program is carried out by four Divisions—Geophysics, Continental Geology, Marine Geosciences and Petroleum Geology, and Petrology and Geochemistry. Mineral and petroleum resource assessments are undertaken by the Resource Assessment Division which includes Mineral Commodities Branch, a Petroleum Branch, a Mineral Projects and Evaluation Branch, and a Geoscience Computing and Database Branch. Other branches are Planning and Programs, and Special Projects and Geoscience Services.

BMR maintains laboratories in Canberra engaged on geochemical, geochronological, organic geochemistry, and petroleum technological studies, and basic research into the design and testing of geophysical equipment. It also maintains geophysical observatories at Kowen Forest (Australian Capital Territory), Mundaring (Western Australia), Mawson (Antarctica), and Macquarie Island. The geophysical observatories are engaged in geomagnetic, ionospheric, and seismology research.

State government assistance

In addition to free assays and determinations of rocks and minerals carried out for prospectors by the Mines Departments of the States and Territories, technical officers of these departments provide advice to the mining and allied industries where required, carry out field examinations of mining prospects, advise on exploration and development, select sites for water supply, and generally give a free technical service to the mining industry.

New South Wales

The primary objective of the Department of Mineral Resources is to promote the responsible development of mineral resources in New South Wales. The Department administers the various Acts (Coal, Petroleum and Mining) and grants titles to encourage and facilitate the exploration for, prospecting and development of, the State's mineral resources. The Department's staff is deployed in many diverse areas of activity to encourage and assist mining and resource development projects by the mining industry.

A wide range of services, information and advice is provided on many subjects including geological and geophysical investigations, scientific and chemical research, geological and metallogenic mapping, prospecting, mining legislation and administrative procedures. Additional capabilities are provided by the Department's Mineral Resources Development Laboratory located at Lidcombe particularly in the fields of mineral product utilisation, environmental management and geochemical analysis. The Geological and Mining Museum, one of the State's foremost specialist museums, is maintained by the Department, as is the reference library of geology, mining and allied topics situated at the Department's head office and Bore Core Library situated at Londonderry, near Penrith.

The Department is engaged in the continuous assessment of the State's mineral resources; its coal exploration and assessment programme in particular has identified many significant coal deposits.

Victoria

The Department of Industry, Technology and Resources advises on, monitors, coordinates and implements minerals and energy policy. The Department conducts geological, ground water and mineral surveys, produces geological maps, and issues scientific and technical reports thereon. Drilling operations are carried out and the results are used in sedimentary basin studies to evaluate the petroleum, mineral and ground water potential of the State. A comprehensive library is maintained, while a core library retains cores and cuttings from government and private drilling operations. The administration of petroleum, pipeline, mining and extractive industry legislation ensures that mineral, stone and petroleum exploration and production (both onshore and offshore), mining and quarrying are regulated and controlled. Technical assistance and advice are available for mineral, stone, ground water and petroleum exploration and prospecting. Five stamp batteries located throughout the State provide an ore-crushing service to enable test crushing to be made at nominal cost. Information is available on mining law and mineral statistics. Assays of ores and analytical services are also available from the State Chemical Laboratory for a fee.

Queensland

The purpose of the Department of Mines is to ensure that Queensland's mineral and energy resources are assessed, developed and utilised to the maximum extent practicable consistent with sound economic, safety and environmental management.

The Department encourages and assists the search for and development of the State's mineral resources, working through a system of permits, leases and licences issued under Acts of Parliament. The Department staff contains qualified experienced professionals including mining engineers, geologists, geophysicists, technical experts in the mechanical and electrical fields, surveyors, cartographers, draftsmen, ecologists, fuel technologists, economists and administrators.

Detailed information of assistance to mineral searchers is collated from in-house geological and geophysical studies and continuous scientific appraisal of results achieved and reported by commercial exploration groups. Over the years this information effort has been underpinned by Departmental drilling for stratigraphic information, resources assessment and applied research.

The Department of Mines carries out continuous inspection on mine safety and provides an expert technical advisory service to the mining industry. Other activities include research on mine safety and health and the administration of safety regulations on gas installations and explosives.

At a time of intense competition among suppliers of resources, the Department of Mines intends to maintain its pre-eminent position as a reliable, efficient and progressive body with which to do business. To this end, it has, in the last two years, undergone a major organisational review and the consequences of that review are now becoming evident.

Perhaps the most important of these is the re-arrangement of the management structure, with the introduction of program management systems and an emphasis on facilitation of mineral and energy resources exploration and development.

Broadly, the Department is now structured around a number of clearly defined programs which report to the Department's directorate comprising a Director-General and two Assistant Directors-General. In addition to the comprehensive skills and expertise of the program management systems, the Department also draws on the skills of specialist advisers.

The Department continues to strengthen existing links with overseas governments, corporations and individual entrepreneurs at the same time as it works to encourage the establishment of new opportunities in mineral and energy resource development. It offers a rapid response to development and investment inquiries, both from within Australia and abroad.

To realise its purpose, the Department is structured along program lines to achieve the following major goals:

Corporate Services
To enhance the delivery of services to Departmental clients by providing human resource management systems and advice, organisational improvement initiatives and executive support.

Geological Survey—Regional Investigations
To provide the geoscientific framework for mineral and energy exploration and the development of the State generally by expanding knowledge of the geology and the factors controlling the distribution of mineral and energy resources.

Geological Survey—Services
To furnish specialised geoscientific information, by provision of a geoscientific consultancy service and drilling, core storage and field services to the mining and energy industries and Departmental and other Government clients.

Information Services
To help satisfy the mineral, energy, resources, social and environmental information needs of industry, Government, media, the educational community and the broader public by providing accurate and timely information services and products from a range of data and human skills available to the Department of Mines.

Titles and Tenures Services
To facilitate and regulate the development of the State's mineral and energy resources consistent with the needs of the mining industry, Government Departments and the community by:

- administering and registering exploration and mining tenures;
- determining the availability of land to such tenures, or for setting apart pursuant to the various mining statutes; and
- supervising, administering and promoting fossicking activities.

Resource Economics
To assist Government decision making about resource development and management and to collect an adequate and equitable financial return to the community by providing economic and commercial policy advice and information and by management of the State's royalty system.

Mineral Resources Development
To facilitate the assessment, development and utilisation of Queensland's mineral resources for the benefit of the community in accordance with Government policy and sound economic and environmental management.

Energy Resources Development and Utilisation
To facilitate exploration, development and efficient utilisation of energy resources in Queensland by identifying opportunities, determining policies, promoting energy-related research, development and demonstration and by providing technology transfer for the benefit of industry, community and Government in Queensland.

Mining Safety and Technology
To promote improvement in safety, health, technology and environmental management at mines, petroleum operations and installations by providing informed advisory and monitoring services supported by the community and by a practical legislative framework.

Dangerous Goods
To contribute to the optimum safety of personnel and the protection of the environment at installations and in the practices and procedures used with dangerous goods by providing expert advisory, coordination and inspection services together with a practical legislative framework to suppliers and users.

South Australia
The principal functions of the Department of Mines and Energy are to:

- administer mining legislation, including the granting of mineral leases and collection of royalties and fees;
- provide advice to Government and private industry on the exploration, development and processing of the State's mineral, energy and underground water resources;
- ensure that these resources are assessed and developed in accordance with Government policy;
- encourage exploration for mineral and energy resources by private enterprise;
- provide advice to the Government on energy development, utilisation and conservation, including alternative energy sources;
- provide research and specialist services in the geosciences;
- store geoscientific data on South Australia and make it available to the mining and energy industries, other Government Departments and the community;
- ensure that industries which are engaged in resource development adopt effective safety precautions within their operations and that the Government's environmental protection policies are adopted.

The Department has responsibility, through the Minister for Mines and Energy, for administration of legislation relating to Roxby Downs ore deposits, Cooper Basin oil and gas fields and the Stony Point Liquids Project.

Western Australia
The Western Australian Department of Mines carries out the registration of mining tenement titles, the survey of tenements and the subsequent collection of mining royalties. Through its Geological Survey Division, the Mines Department carries out geological investigations and surveys throughout the State. The results of this work are made available in both map and report format. The Chemistry Centre (WA), a division of the Mines Department provides analytical and research services to government, industry and the public. In addition the Department administers legislation relating to the use and transport of explosives and dangerous goods and the safety of workers in the mining and petroleum industries.

Tasmania
The Department of Mines assists industry in maintaining and increasing the value to the State of its mineral and petroleum resources. Companies are required to extract resources in the most complete manner and to minimise environmental impact. The Department is the State's centre for earth sciences and mineral resources. Mineral resource maps, geological maps, mineral exploration data bases and geophysical information are available.

The following services are provided:

- geological and mining engineering advice;
- engineering geology and ground water services;
- chemical and metallurgical laboratories;
- drill and plant hire;

- ore dressing research into metallurgical recoveries;
- selection and design of treatment plants;
- financial assistance is extended to approved mining lessees.

Northern Territory

The Department of Mines and Energy encourages and assists the development of an efficient mining and processing industry throughout the Northern Territory. Through five divisions the Department administers relevant legislation and provides a wide range of services.

Mines Division acts as a single point of contact for all mineral mining related matters in the Northern Territory. In this context it is also responsible for controlling and ensuring the efficient, orderly and safe exploration for, and recovery and utilisation of mineral resources in the Northern Territory. The Division formulates and implements policy and legislation designed to investigate the feasibility of mining and development proposals, provides technical advice to prospecting and mining operations, and strives for compatibility between mining and alternate land uses. It also administers all mining titles and is responsible for the collection of mineral royalties.

The Geological Survey Division provides the essential scientific basis for the overall operations of the Department of Mines and Energy. The Division studies the regional geology and geophysics of the Northern Territory and publishes reports of this work for use by industry, other government departments and the public.

Energy Division is responsible for the development and implementation of energy policies, research into alternative sources of energy, planning of energy supply and consumption in the Northern Territory and for safety and environmental supervision of petroleum exploration. This includes promotion of the exploration for and development of indigenous energy resources, research into diversification of the Northern Territory's energy base, energy conservation and security.

The Alligator Rivers Region Unit is responsible for the oversight and coordination of all stages of uranium mining, milling and rehabilitation processes in the Alligator Rivers Region. The unit is the focal point for the industry and the public for matters concerning uranium mines in the Northern Territory.

The Administration Division ensures effective administration of the Department's functions and responsibilities and provides a range of common services to operational divisions.

Research

Research investigations into problems of exploration, mining, ore-dressing and metallurgy are conducted by government bodies, universities, private enterprise, or by the combined efforts of all these. A summary of their functions follows, for further information on research *see* Chapter 22, Science and Technology.

Amdel Limited

Analysis, contract research and consulting in a broad range of scientific and technical areas is carried out by Amdel Limited. Operations are based in Adelaide, with branches in Perth, Melbourne, Sydney, Darwin and Townsville. Extensive laboratory facilities are available in the fields of analytical chemistry, mineralogy, metallurgy, materials science and petroleum. Mineral process evaluation is carried out at bench and Pilot Plant scale. Services are provided in fields of pollution and environmental control and occupational health and safety. Products are based around nucleonic measurement techniques linked to microprocessors, and include in-stream analysis for the mineral industry, coal slurry analyser, limestone analyser and on-pipe density gauge.

Bureau of Mineral Resources, Geology and Geophysics—BMR

BMR is one of the largest geoscience research organisations in Australia. Its role is to develop an integrated scientific understanding of the geology of the Australian continent, its Territories and offshore areas, as a basis for mineral exploration and resource assessment.

BMR carries out programs in:

- Fossil fuels and minerals research: with components covering Controls on Fossil Fuels Occurrence; Onshore Sedimentary Basins; Offshore Sedimentary Basins; Overseas Basins; Mineral Deposits and Provinces; Regolith, Related Resources and Remote Sensing; Regional Structure and Tectonics; and Geophysical Mapping (Continental and Offshore).
- Ground water research and assessment: comprising a component on Basin Hydrogeology.
- National geophysical observatories and Antarctic surveys: involving components on Earthquake and Volcanic Hazards; Monitoring of Nuclear Explosions; Geomagnetism; Antarctic Onshore Surveys; and Antarctic Offshore Basins.
- Petroleum and minerals resource assessment: covering components on Petroleum Resource Assessment and Availability; and Mineral Resource Assessment and Availability.
- National geoscience databases: including components on Databases Coordination, Research and Operations; and Geoscience Maps, Cartography and Image Processing.
- BMR management and information: with components on Geoscience Management, Coordination and Public Relations; Publications; Geoscience Library and Museum; Resources Management and Services; and International Agreements and Project Coordination.

Commonwealth Scientific and Industrial Research Organization—CSIRO

Minerals research by the Commonwealth Scientific and Industrial Research Organization (CSIRO) is undertaken within the Institute of Minerals, Energy and Construction. The objective of the Institute is to increase the international competitiveness, export earnings, gross domestic product and value of services provided by the minerals, energy and construction industries.

Divisions (and their respective headquarters locations) of the Institute engaged in minerals energy and construction research are the Division of Geomechanics at Syndal (Vic.); the Division of Coal Technology at North Ryde (NSW); the Division of Mineral Products at Port Melbourne (Vic.); the Division of Mineral and Process Engineering at Clayton (Vic.); the Division of Exploration Geoscience at Perth (WA); the Division of Fuel Technology at Lucas Heights (NSW), and the Division of Building, Construction and Engineering at Highett (Vic.). The Institute Headquarters is located in Sydney (NSW).

University research

The various universities in Australia carry out research into various aspects of the mineral industry such as geology, ore mineralogy and genesis, mining techniques, mineral processing, extractive metallurgy, and materials and metals technology.

Research by private enterprise

The Australian Mineral Industries Research Association Limited (AMIRA) is a non-profit organisation which was set up in 1959 by the Australian mineral industry to manage jointly sponsored research and development on behalf of the industry. There are more than 150 members of AMIRA, drawn from all parts of the mineral, coal and petroleum industries. Membership ranges from small exploration companies to large mining houses and includes suppliers of services to the industry. The policy of the Association is determined by a council elected by members.

AMIRA has no research facilities so organisations such as CSIRO, universities, consultants, suppliers or member companies carry out the research as contractors to AMIRA. Research contracts worth approximately $20 million are being handled by AMIRA.

International Relations

Because Australia is a large supplier of certain minerals to the rest of the world, and because the welfare of the domestic industry depends to a large extent on the maintenance of a high level of exports, international relations are of considerable importance to the industry, and the Commonwealth Government takes an active role in international consultations and discussions relating to minerals. The most important international commitments are discussed below.

International Tin Agreement

The present International Tin Agreement is the sixth in a series of agreements, the first of which commenced on 1 July 1956. For details of earlier agreements *see Year Books* No. 57, pages 911–12; No. 61, page 942 and No. 66, page 376.

The Sixth International Tin Agreement is administered by the International Tin Council which has the following members: Producers—Australia, Indonesia, Malaysia, Nigeria, Thailand, Zaire; Consumers—Belgium, Luxembourg, Canada, Denmark, Finland, France, Germany (Federal Republic of), Greece, India, Ireland (Republic of), Italy, Japan, Netherlands, Norway, Sweden, Switzerland and the United Kingdom.

Prior to the expiry date of the present (Sixth) Agreement on 30 June 1987, member countries agreed to extend the Agreement for two years from 1 July 1987 to 30 June 1989. During this period of extension, the economic provisions of the Agreement will remain suspended following the cessation of buffer stock operations by the International Tin Council on 24 October 1985.

Association of Tin Producing Countries—ATPC

The ATPC came into force on 16 August 1983. Membership is open to countries which are net exporters of tin. The current members are Australia, Bolivia, Indonesia, Malaysia, Nigeria, Thailand, Zaire. The main objective of the ATPC is to encourage greater consumption of tin through research, development and promotion. Since 1987, the ATPC has been operating a program of production restraint in an attempt to reduce the overhang of stocks on the world market.

International Lead and Zinc Study Group

With the cessation of stockpile buying of lead and zinc by the United States Government in 1958, world producers were faced with the prospect of a serious imbalance between world supply and demand for these metals. To meet this problem, a series of meetings was held, culminating in the formation of the International Lead and Zinc Study Group in January 1960. The following countries are currently members of the Study Group: Australia, Austria, Belgium, Brazil, Bulgaria, Canada, China, Czecholslovakia, Denmark, Finland, France, Germany (Federal Republic of), Hungary, India, Iran, Italy, Japan, Korea (Republic of), Morocco, Netherlands, Norway, Peru, Poland, South Africa, Spain, Sweden, Tunisia, Union of Soviet Socialist Republics, United Kingdom, United States of America and Yugoslavia.

Government and industry representatives meet annually to discuss developments in the international lead and zinc industry. The Group also undertakes special studies of the world situation in lead and zinc and considers possible solutions to problems unlikely to be resolved in the normal development of world trade. Particular attention is given to providing continuous information on the supply and demand situation and its probable development.

Association of Iron Ore Exporting Countries—APEF

APEF was established in 1975 with the following membership: Australia, Algeria, India, Liberia, Mauritania, Peru, Sierra Leone, Sweden and Venezuela. Membership currently accounts for about 45 per cent of world iron ore exports. The Agreement establishing the

Association provides for a Conference of Ministers once every two years and a Board, comprising representatives of each member country, which meets twice a year. The Association's Secretariat publishes a statistical bulletin twice a year.

Following the receipt of notices of intention to withdraw from the Association by Sweden, Peru and Sierra Leone, member countries are considering options for the future role and activities of the Association and its statistical activities.

Inter-governmental Council of Copper Exporting Countries—CIPEC

CIPEC was established in 1967 by the Governments of Chile, Peru, Zaire and Zambia as an inter-governmental consultative organisation for copper exporting countries.

Indonesia, Yugoslavia and Papua New Guinea are Associate Members of CIPEC. Australia was also an Associate Member but withdrew from the Council as of 31 December 1987.

The key objectives of CIPEC are to coordinate measures to achieve continuous growth in real earnings from copper exports and to harmonise the decisions and policies of members relating to copper production and marketing.

International Bauxite Association—IBA

Australia joined the IBA as a founder member in October 1974. Other members are Ghana, Guinea, Guyana, India, Indonesia, Jamaica, Sierra Leone, Surinam and Yugoslavia. Members account for about three-quarters of world bauxite production, with Australia accounting for over one-third of world production.

The objectives of the Association are to promote the orderly and rational development of the bauxite industry; to secure for members fair and reasonable returns from the exploitation, processing and marketing of bauxite and its products for the economic and social development of their peoples, bearing in mind the recognised interests of consumers; and generally to safeguard the interests of member countries in relation to the bauxite industry.

The Association consists of a Council of Ministers which meets once a year, an Executive Board consisting of senior officials which meets three times a year and a Secretariat which is located in Kingston, Jamaica.

The IBA provides members with an opportunity to discuss common problems and evolve cooperative policies to facilitate further development of their bauxite/alumina/aluminium industries. The Association's work is mostly concerned with exchanging views and information on a range of industry matters. The commercial and technical aspects of formulating minimum export prices for bauxite and alumina have received particular attention. Australia has indicated that it is not bound by any decision the IBA might make regarding minimum pricing of bauxite and alumina. The Association publishes a quarterly review.

Mining Industry Statistics

This section contains statistics of the mining industry in Australia, obtained from the annual census of mining establishments. The mining census is conducted throughout Australia on an integrated basis with other economic censuses, e.g. manufacturing, electricity and gas, retail, wholesale trade, construction, transport and selected services establishments.

Statistics are also available for *enterprises* engaged in the mining industry. The latest statistics for mining are in respect of 1984–85 and were published in the *Annual Economic Censuses and Surveys: Enterprise Statistics Australia, 1984–85, Final* (8103.0). Enterprise statistics for mining are now produced annually and should be available within two years of the end of the financial year to which they relate. A description of the statistics and broad summary tables, in respect of the 1983–84 and 1984–85 censuses and survey are given in Chapter 18.

The following table shows key items of data for establishments in Australia for 1986–87 based on the 1983 edition of the *Australian Standard Industrial Classification* (ASIC).

MINING ESTABLISHMENTS: SUMMARY OF OPERATIONS BY INDUSTRY CLASS, 1986–87

Industry		*Establishments at 30 June*	*Average employment over whole year(a)*	*Wages and salaries (b)*	*Turnover*	*Stocks*		*Total purchases transfers in and selected expenses*	*Value added*
ASIC code	*Description*					*Opening*	*Closing*		
		No.	No.	$m	$m	$m	$m	$m	$m
	Metallic minerals—								
	Ferrous metal ores—								
1111	Iron ores	16	8,032	276	2,237	115	171	1,117	1,176
1112	Iron ore pelletising	2							
	Non-ferrous metal ores—								
1121	Bauxite	8	2,124	64	514	31	28	97	414
1122	Copper ores	4	2,447	85	396	54	66	134	274
1123	Gold ores	177	6,098	196	1,693	106	182	649	1,120
1124	Mineral sands	16	1,747	44	333	42	67	138	220
1125	Nickel ores	5	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1126	Silver–lead–zinc ores	14	5,395	185	760	129	121	349	403
1127	Tin ores	15	723	20	75	19	19	40	36
1128	Uranium ores	2	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1129	Non-ferrous metal ores n.e.c.	9	736	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
11	*Total metallic minerals*	*268*	*29,472*	*974*	*6,699*	*729*	*941*	*2,743*	*4,168*
	Coal, oil and gas—								
1201	Black coal	114	32,459	1,315	6,971	763	898	2,997	4,110
1202	Brown coal	6	2,669	79	321	11	8	54	264
1300	Oil and gas	31	4,792	187	4,015	184	234	352	3,713
12,13	*Total coal, oil and gas*	*151*	*39,920*	*1,582*	*11,308*	*958*	*1,140*	*3,403*	*8,087*
	Construction materials—								
1401	Sand and gravel	349	2,056	44	319	15	18	145	177
1404	Construction materials n.e.c.	426	3,828	92	612	55	62	297	322
14	*Total construction materials*	*775*	*5,884*	*136*	*930*	*70*	*80*	*441*	*499*
	Other non-metallic minerals—								
1501	Limestone	56	652	14	83	6	7	42	42
1502	Clays	88	232	5	35	6	7	19	17
1504	Salt	13	578	18	117	22	21	34	82
1505	Non-metallic minerals n.e.c.	100	1,329	38	322	38	89	116	257
15	*Total other non-metallic minerals*	*257*	*2,791*	*75*	*557*	*72*	*124*	*211*	*398*
	Total mining (excl. services to mining)	**1,451**	**78,067**	**2,767**	**19,494**	**1,829**	**2,284**	**6,798**	**13,152**

(*a*) Includes working proprietors. (*b*) Excludes amount drawn by working proprietors.

Mineral Production

This section contains details of the output (quantity and value) of selected minerals produced and the metallic content of ores, concentrates, etc.

The statistics shown have been derived from data collected in the annual mining census and in returns to the various State Mines Departments, supplemented in some cases by information made available by the Department of Primary Industries and Energy and from other sources.

For details of the scope of mineral production statistics and their relation to mining industry statistics, and the principles for measuring the output of minerals, *see Year Book* No. 61 and earlier issues.

Quantity of minerals produced

The following tables show particulars of the quantities of selected minerals produced and contents of selected metallic minerals produced during 1986–87 and earlier years. Further data are available relative to all minerals in the annual publication *Mineral Production, Australia* (8405.0).

QUANTITY OF SELECTED MINERALS PRODUCED

Mineral		*1984–85*	*1985–86*	*1986–87*
METALLIC MINERALS				
Bauxite	'000 tonnes	n.p.	31,864	33,168
Copper concentrate	"	n.p.	n.p.	878
Copper ore	"	28,737	19,739	22,028
Gold bullion*(a)*	kg	n.p.	81,008	n.p.
Iron ore	'000 tonnes	n.p.	n.p.	*(b)*96,364
Lead concentrate	"	764	n.p.	n.p.
Lead-copper concentrate	tonnes	28,200	38,209	28,774
Lead-zinc concentrate	"	46,276	55,534	124,094
Manganese ore—				
Metallurgical grade	'000 tonnes	n.p.	1,152	864
Mineral sands—				
Ilmenite concentrate*(c)*	"	1,264	1,272	1,400
Rutile concentrate	"	191	n.p.	247
Zircon concentrate	"	452	476	432
Nickel concentrate	"	486	455	406
Tantalite-columbite concentrate	tonnes	185	n.p.	n.p.
Tin concentrate	"	13,321	n.p.	n.p.
Tungsten concentrates—				
Scheelite concentrate	"	2,045	2,029	1,757
Wolfram concentrate	"	1,427	1,194	232
Uranium concentrate	"	n.p.	n.p.	n.p.
Zinc concentrate	'000 tonnes	1,311	n.p.	n.p.
COAL				
Coal (other than lignite)—				
Saleable coal*(d)*				
Semi-anthracite	'000 tonnes	231	358	394
Bituminous	"	105,859	120,398	134,233
Sub-bituminous	"	12,177	13,599	14,096
Washery rejects*(d)*	"	26,906	29,314	33,717
Lignite—				
For briquettes	"	2,131	2,157	2,087
Other	"	36,369	33,312	39,712
Briquettes	"	802	851	828
OIL AND GAS				
Crude oil (stabilised)	megalitres	30,919	31,669	30,205
Natural gas	gigalitres	12,958	14,274	14,488
Ethane	"	200	196	161
CONSTRUCTION MATERIALS				
Sand	'000 tonnes	27,017	28,019	29,888
Gravel	"	16,951	18,677	14,952
Crushed and broken stone	"	65,573	70,061	66,772
Other (decomposed rock, dimension stone, etc.)	"	32,298	33,595	30,009
OTHER NON-METALLIC MINERALS				
Clays	'000 tonnes	8,620	7,911	8,882
Limestone (including shell and coral)	"	11,811	n.p.	12,338
Salt	"	n.p.	5,735	n.p.
Silica	"	n.p.	n.p.	2,209

(a) Includes alluvial gold. *(b)* Tasmanian production is in the form of pellets. *(c)* Includes ilmenite from which titanium dioxide is not commercially extractable and beneficiated ilmenite. *(d)* Raw coal is saleable coal plus washery rejects.

CONTENTS OF SELECTED METALLIC MINERALS PRODUCED

Contents of metallic minerals produced		*1984–85*	*1985–86*	*1986–87*
Antimony	tonnes	1,409	1,262	1,202
Cadmium	"	2,670	2,167	n.p.
Cobalt	"	2,602	2,918	3,046
Copper	"	251,782	241,706	246,085
Gold	kg	48,853	64,780	n.p.
Iron*(a)*	'000 tonnes	n.p.	n.p.	61,456
Lead	tonnes	n.p.	n.p.	n.p.
Manganese	"	n.p.	n.p.	n.p.
Monazite	"	14,001	15,538	10,474
Nickel	"	82,267	80,528	74,509
Palladium	kg	461	421	490
Platinum	"	81	94	105
Silver	"	1,044,105	1,074,227	1,036,905
Sulphur	tonnes	429,710	449,706	517,250
Tantalite–columbite ($Ta_2O_5 + Nb_2O_5$)	kg	87,648	n.p.	n.p.
Tin	tonnes	n.p.	7,391	n.p.
Titanium dioxide (TiO_2)	"	858,586	1,023,561	954,371
Tungstic oxide (WO_3)	mtu *(b)*	239,883	232,253	143,996
Yttrium oxide (Y_2O_3)	kg	12,600	n.p.	n.p.
Zinc	tonnes	744,401	722,599	n.p.
Zirconium dioxide (ZrO_2)	"	314,544	331,678	302,789

(a) Excludes iron content of iron oxide not intended for metal extraction. Includes iron contained in iron concentrate. *(b)* Metric ton unit (mtu) equals 10 kilograms.

Value of minerals produced

The following table shows the value of principal minerals produced during 1986–87 and earlier years. Further data are available in the annual publication *Mineral Production, Australia* (8405.0).

VALUE OF SELECTED MINERALS PRODUCED
($'000)

Mineral	*1984–85*	*1985–86*	*1986–87*
METALLIC MINERALS			
Bauxite	n.p.	n.p.	n.p.
Copper concentrate	305,939	341,334	n.p.
Copper ore	1,411	1,130	1,170
Gold bullion*(a)*	n.p.	n.p.	944,139
Iron ore	n.p.	n.p.	*(b)*1,884,198
Lead concentrate	n.p.	n.p.	n.p.
Lead-copper concentrate	n.p.	n.p.	42,333
Lead-zinc concentrate	8,038	7,786	27,261
Manganese ore—			
Metallurgical grade	n.p.	n.p.	n.p.
Mineral sands—			
Ilmenite concentrate*(c)*	45,858	57,003	88,664
Rutile concentrate	67,092	n.p.	n.p.
Zircon concentrate	49,659	62,441	80,353
Nickel concentrate	n.p.	n.p.	197,919
Tantalite-columbite concentrate	4,827	n.p.	n.p.
Tin concentrate	n.p.	89,857	n.p.
Tungsten concentrates—			
Scheelite concentrate	n.p.	n.p.	8,415
Wolfram concentrate	7,435	6,310	872
Uranium concentrate	n.p.	n.p.	n.p.
Zinc concentrate	341,303	269,048	n.p.

For footnotes *see* end of table.

VALUE OF SELECTED MINERALS PRODUCED—*continued*
($'000)

Mineral	*1984–85*	*1985–86*	*1986–87*
COAL			
Coal (other than lignite)—			
Saleable coal—			
Semi-anthracite	5,733	10,904	12,730
Bituminous	3,988,421	4,770,138	5,093,916
Sub-bituminous	330,781	398,289	n.p.
Lignite—			
For briquettes	..	..	..
Other	204,758	233,912	268,314
Briquettes	23,851	15,714	25,019
OIL AND GAS			
Oil and Gas	4,034,400	n.p.	3,702,445
CONSTRUCTION MATERIALS			
Sand	141,297	161,075	162,127
Gravel	110,347	109,515	103,126
Crushed and broken stone	462,087	536,271	493,687
Other (Decomposed rock, dimension stone, etc.)	90,027	114,191	111,838
OTHER NON-METALLIC MINERALS			
Clays	n.p.	46,257	55,503
Gems—			
Diamond	n.a.	147,568	284,095
Opal*(d)*	45,079	49,950	67,425
Sapphire	13,627	12,066	16,457
Limestone (incl. shell and coral)	64,167	n.p.	72,075
Salt	n.p.	99,194	n.p.
Silica	18,269	n.p.	24,815

(a) Includes alluvial gold. *(b)* Value for Tasmanian production is for pellets. *(c)* Includes ilmenite from which titanium dioxide is not commercially extractable and beneficiated ilmenite. *(d)* Partly estimated.

Foreign Participation in the Mining Industry in Australia

Summary information on foreign participation in the mining industry in Australia is shown in Chapter 26, Foreign Transactions. More detailed statistics are available in *Foreign Ownership and Control of the Mining Industry, Australia 1984–85* (5317.0) and *Foreign Control in Mineral Exploration, Australia 1984–85* (5323.0).

Mineral Exploration (Other Than for Petroleum)

Definition

Exploration consists of the search for new ore occurrences or undiscovered oil or gas and/or appraisal intended to delineate or greatly extend the limits of known deposits of minerals or oil or gas reservoirs by geological, geophysical, geochemical, drilling and other methods. This includes construction of shafts and adits primarily for exploration purposes but excludes activities of a developmental or production nature. Exploration for water is excluded.

Source of statistics

The statistics of exploration for minerals *other than petroleum* are derived from the annual mineral exploration census conducted by the Australian Bureau of Statistics (ABS) in each State and the Northern Territory (in New South Wales the census is conducted jointly with the State Department of Mineral Resources).

Petroleum exploration statistics are obtained from the quarterly census conducted by the ABS.

Expenditure

The following table shows expenditure by State on private mineral exploration other than for petroleum in Australia during the last six years.

PRIVATE MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)
($'000)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Expenditure—						
New South Wales	89,751	65,713	55,563	49,464	51,793	47,587
Victoria	25,140	18,532	11,120	15,179	12,318	15,491
Queensland	124,976	88,428	80,749	79,512	88,559	120,649
South Australia	64,772	50,590	54,380	57,554	48,863	10,961
Western Australia	216,072	170,380	184,699	189,817	205,245	323,279
Tasmania	22,841	18,631	18,042	17,798	10,619	10,917
Northern Territory	32,021	25,637	24,150	28,005	24,636	27,894
Australia	**575,572**	**437,911**	**428,702**	**437,328**	**442,033**	**556,778**

The table below shows expenditure on private petroleum exploration in Australia during the last six years

PRIVATE PETROLEUM EXPLORATION

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Expenditure ($ million)—						
Onshore	378.6	345.1	283.1	419.6	367.8	171.0
Offshore	425.4	582.3	540.6	373.6	398.0	134.1
Total	**804.0**	**927.4**	**823.7**	**793.2**	**765.7**	**305.2**

Mineral Processing and Treatment

The extraction of minerals from ore deposits, as in mining and quarrying, is only a part of mineral technology, as few minerals can be directly used in the form in which they are mined. In most cases, minerals must undergo considerable processing and treatment before utilisation.

Principal products

The following table shows particulars of the production of certain important manufactured products of mineral origin during recent years.

PRODUCTION (a) OF PRINCIPAL MANUFACTURED PRODUCTS OF MINERAL ORIGIN

Commodity		*1985–86*	*1986–87*	*1987–88*
METALS (*b*)				
Non-ferrous—				
Alumina	'000 tonnes	9,080	9,839	10,330
Refined aluminum	"	870	921	1,074
Blister copper*(c)*	"	162	174	180
Refined copper	"	163	171	186
Lead bullion (for export)*(c)*	"	188	183	201
Refined lead	"	206	142	182
Refined zinc	"	297	300	306
Refined tin	tonnes	2,208	784	501
Ferrous—				
Pig iron	'000 tonnes	5,925	5,783	5,455
Raw steel	"	6,826	6,387	6,093
Precious—				
Refined gold *(d)*	kg	56,928	81,856	111,934
Refined silver	"	315,337	270,608	304,426
FUELS				
Coal products—				
Metallurgical coke	'000 tonnes	3,534	3,253	3,727
Brown coal briquettes	"	852	811	809
Petroleum products *(e)*—				
Diesel-automotive oil	megalitres	8,139	8,198	9,399
Industrial fuel and marine fuel	"	329	240	229
Fuel oil for burning	"	2,264	2,274	2,078
Automotive petrol	"	15,652	15,296	15,995
BUILDING MATERIALS				
Clay bricks	millions	1,980	1,847	1,870
Portland cement	'000 tonnes	6,106	5,920	6,150
CHEMICALS				
Sulphuric acid	'000 tonnes	1,788	1,678	1,816
Superphosphate *(f)*	"	2,610	2,769	3,194

(a) Some products exclude production of single establishment manufacturing establishments employing less than four persons and production of establishments predominantly engaged in non-manufacturing activities but which may carry on in a minor way, some manufacturing. *(b)* Excludes secondary metal with the exception of pig iron and steel ingots. *Source*: Bureau of Mineral Resources, Geology and Geophysics (non-ferrous and precious metals only). *(c)* Metallic content. *(d)* Newly won gold of Australian origin. *(e) Source*: Department of Primary Industries and Energy. *(f)* Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate, i.e. 22 per cent P_2O_5 equivalent.

Overseas Trade

Exports and imports

For particulars of the quantities and values of the principal minerals and products exported from and imported into Australia during recent years, *see* Chapter 26, Foreign Transactions.

Considerable quantities of metallic ores, concentrates, slags, and residues are exported from Australia for refining overseas. The following table shows selected items exported during 1987 and their principal metallic content as estimated by assay.

PRINCIPAL METALLIC CONTENTS OF SELECTED ORES AND CONCENTRATES ETC. EXPORTED FROM AUSTRALIA, 1987

	Metallic contents—estimated from assay							
Ores and concentrates etc.	*Copper*	*Lead*	*Zinc*	*Tin*	*Iron*	*Tungstic oxides*	*Gold*	*Silver*
	tonnes	tonnes	tonnes	tonnes	'000 tonnes	tonnes	kg	kg
Copper concentrate	38,028	1,724	2,434	—	—	—	104	5,512
Blister copper	3,491	—	—	—	—	—	—	403
Copper matte, slags, etc. *(a)*	1,247	394	80	10	—	—	75	6,925
Gold concentrate	—	—	—	—	—	—	2	—
Lead concentrate	2,550	56,657	2,941	—	—	—	999	155,623
Lead bullion	—	178,300	—	—	—	—	63	436,396
Lead slags and residues	11	6,701	3	8	—	—	120	16,643
Zinc concentrate	266	11,027	410,733	—	—	—	40	111,901
Zinc slags and residues	—	—	5,795	—	—	—	—	—
Tin concentrate	—	—	—	7,005	—	—	—	—
Tin slags and residues	—	13	—	5	—	—	—	—
Iron ore—								
Pellets	—	—	—	—	1,358	—	—	—
Fines	—	—	—	—	25,010	—	—	—
Lump	—	—	—	—	22,900	—	—	—
Scheelite concentrate	—	—	—	—	—	1,340	—	—
Wolfram concentrate	—	—	—	—	—	86	—	—
Total metallic content	45,593	254,816	421,986	7,028	49,268	1,426	1,403	733,403

(a) Includes copper matte, copper slags and residues and copper–lead dross and speiss.

REVIEW OF RECENT DEVELOPMENTS IN THE AUSTRALIAN MINERAL INDUSTRY

(*Source*: **Bureau of Mineral Resources, Geology and Geophysics**)

Major recent developments in the Australian mineral industry are reviewed briefly in subsequent parts of this section. Additional information on developments in the industry is available in *Australian Mineral Industry Annual Review 1987* published by the Bureau of Mineral Resources, Geology and Geophysics. That publication contains comprehensive reviews of mineral commodities of importance to the Australian economy, as well as a general review of the industry's performance during the year. The *Australian Mineral Industry Quarterly*, Volume 40, Number 4, details Australia's identified mineral resources, 1987

General review of 1987

The Gross Domestic Product (GDP) of Australia in 1986–87 was $260,379 million, of which an estimated $13,376 million was generated by the mining industry, excluding smelting and refining. If smelting and refining were included, an estimated $3,230 million could be added to this figure, thus making the mineral industry the largest primary sector contributor to the GDP.

The ex-mine value of mine production in Australia in 1987 was $21,207 million. This was $1,488 million, or 8 per cent more than the 1986 value of $19,720 million. However the 1987 value was $901 million below the record level of $22,108 million established in 1985, mainly because crude oil prices were still well below 1985 levels. With a few notable exceptions, most major mineral commodities improved on their 1986 performance. There were substantial increases in the ex-mine values of gold, crude oil, lead, natural gas, mineral sands, brown coal and copper. Major commodities to suffer significant falls were black coal, iron ore, LPG, construction materials and uranium.

Exports—1987

The value of mineral exports rose substantially (10 per cent) to $16,308 million, a new record. Major minerals to show gains on their 1986 levels included alumina, aluminium metal, copper, crude oil, gold, lead, mineral sands (ilmenite, rutile and zircon), silver and zinc. Decreases were recorded for black coal, iron ore, LPG, nickel and uranium.

Black coal, at $5,045 million, remained Australia's largest single export earner, and accounted for about 31 per cent of the value of mineral exports. Gold, which increased by 74 per cent to $1,694 million in 1987, was the second largest (ranked fifth in 1986), followed by iron ore $1,686 million (down 13 per cent compared with 1986), alumina $1,539 million (up 8 per cent), aluminium metal $1,420 million (up 46 per cent) and crude oil $994 million (up 49 per cent). These six minerals together accounted for over three-quarters of mineral exports and almost one-third of the total value of all merchandise exports.

Imports—1987

The value of mineral imports has traditionally been dominated by crude oil although over recent years that domination has weakened. In 1987 imports of crude oil rose by 29 per cent to $1,251 million following a partial recovery in prices in the wake of the collapse of world prices in late 1985. Crude oil imports represented 65 per cent of the total mineral import bill of $1,910 million which was up 24 per cent on the 1986 level. Other significant mineral imports included diamonds, gold bullion, iron and steel, phosphate rock and sulphur. Australia's mineral balance of trade (value of mineral exports minus value of mineral imports) was a record $14,398 million in 1987. ($13,276 million in 1986.)

Pattern of mineral trade—1987

During 1987, Australia exported minerals to more than 100 countries. Japan accounted for 37 per cent of these exports by value, down from 41 per cent in 1986 and its lowest share since 1965 (33 per cent). Principal mineral products exported to Japan included alumina, aluminium, black coal, copper, gold, iron ore, lead, mineral sands, nickel and zinc.

The EEC accounted for 17 per cent (including 6 per cent to the United Kingdom) of Australia's mineral exports by value. Major items included black coal, copper, gold, iron ore, lead, mineral sands, zinc and uranium. The United States accounted for a further 10 per cent comprised mainly of alumina, bauxite, crude oil, mineral sands, nickel, uranium and zinc.

The share of mineral exports going to Asian countries other than Japan has increased in recent years, and in 1987 accounted for 24 per cent of the total (21 per cent in 1986). The main country destinations, and commodities exported, were: Korea (aluminium, black coal and iron ore); Hong Kong (black coal and gold); and China, Taiwan Province (aluminium and black coal).

The Middle East supplied 38 per cent of Australia's mineral imports by value, and Indonesia a further 20 per cent; virtually all of the imports from these sources were crude oil.

Bauxite, alumina and aluminium

In 1987, production of bauxite increased by 7 per cent to 34.2 million tonnes, alumina production increased by about 7 per cent, to 10.1 million tonnes, compared with 1985, while aluminium production increased by 14 per cent to 1,003,947 tonnes. Australia was again the world's largest producer of bauxite and alumina.

In Western Australia all bauxite production is refined at either Alcoa's refineries at Kwinana, Pinjarra and Wagerup, or at Worsley refinery. In the Northern Territory bauxite not exported is refined at Nabalco's refinery at Gove, Northern Territory. In Queensland about 70 per cent of Weipa bauxite is refined at Gladstone (Queensland) and the balance exported.

Gladstone supplies alumina to Comalco's Boyne Island smelter, Queensland (207,000 tonnes per year capacity), to Alcan's Kurri Kurri smelter, New South Wales (capacity 150,000 tonnes per year), to the Bell Bay, Tasmania smelter (117,000 tonnes per year capacity) and to the Tomago, New South Wales (230,000 tonnes per year capacity). Tomago also receives alumina from Gove. Australia's remaining smelters, Point Henry (capacity 165,000 tonnes per year) and the newly opened Portland smelter (capacity 300,000 tonnes per year) are both in Victoria and receive alumina from Western Australia.

Copper

Australia ranks as the seventh largest mine producer of copper but accounts for only 3 per cent of mine production in the Western world. Nevertheless, copper is an important export earning mineral for Australia, the world's ninth largest exporter. In 1987 mine production of copper decreased by 6 per cent to 232,322 tonnes because of lower output from both Mount Isa and Mount Lyell. Production also fell at Woodlawn as the result of the change to an underground operation. There was no production from Mount Gunson which closed in mid 1988 and only small output from Warrego where copper production ceased in February 1987. Production of primary blister copper increased to 177,081 tonnes and production of primary refined copper increased to 182,446 tonnes. Construction began on the Olympic Dam Project in South Australia in March 1986 and production from the first phase of the project is planned to begin around mid 1988. Annual production of about 40,000 tonnes of refined copper, 2,000 tonnes of U_3O_8 and about 2,800 kilograms of gold is planned.

Gold

In 1987, Australia's gold production increased for the seventh successive year, reaching 109,887 kilograms, the highest since 1905. During the year, 29 new gold mines were commissioned and plans were made to bring at least 16 prospects to production in the future. Australia was the fourth ranking gold producer in the Western world in 1987.

Iron

A summary of growth of the Australian iron ore industry 1965 to 1975 was published in the *Australian Mineral Industry Quarterly*, Vol. 29, No. 1. Production of iron ore in 1987 increased by 8 per cent to 101.7 million tonnes. Major increases in output at Pannawonica, Newman and Paraburdoo were only slightly offset by decreases in production at other centres. Despite a recovery in export demand from mid year, exports fell by 2 per cent to 78.3 million tonnes. Shipments of iron ore and pellets for consumption in domestic ironmaking and steelmaking was 7.4 million tonnes in 1987. Australia was the world's fourth largest producer, and continued to be the second largest exporter, after Brazil.

Robe River Iron Associates purchased the Broken Hill Proprietary Co. Ltd (BHP) 50 per cent interest in the Robe River project railway and Cape Lambert port facilities as well as BHP's remaining Deepdale limonite resources, estimated to exceed 2,000 million tonnes. An agreement between Mount Newman Mining Co. and Hancock Mining Ltd announced in 1987 provides for limited mining of scree iron ore deposits to begin at McCamey's Monster, 35km south-east of Newman, at a rate of 750,000 tonnes per year. The agreement also provides for Mount Newman to service Hancock Mining's Romanian contracts from 1988 and for further study into the feasibility of establishing a more permanent 5 million tonnes per year mine at McCamey's.

Hamersley Iron reached agreement with China Metallurgical Import and Export Corporation for joint development of an iron ore mine at Channar, 20km east of Paraburdoo. Production, which is to be blended with output from Hamersley's other mines, is to begin in 1990 at a rate of 3 million tonnes per year and will be progressively increased to 10 million tonnes per year as required.

Mount Newman announced that it would expand the production capacity of its Orebody 29 mine from 1.5–2 million tonnes to 5 million tonnes per year at a cost of $42.9 million.

CRA Ltd purchased CSR Ltd's remaining 50 per cent interest in deposits of pisolitic limonite resources at Yandicoogina, 100 kilometres north-west of Newman.

Goldsworthy Mining Ltd completed design work and began construction, worth $87 million, of its Extension Project which is expected to be operational in 1989. The project will extend operations for twenty years at a production rate of 5 million tonnes per year.

Silver, lead and zinc

Mine production of lead (486,186 tonnes), zinc (753,757 tonnes) and silver (1,103 tonnes) increased in 1987, with the return to a full year's production at Broken Hill and the bringing on-stream of the new Hellyer mine in Tasmania in mid year. Cadjebut, Western Australia, also came on-stream during the year although production was stockpiled in readiness for the commissioning of a new mill in February 1988.

Production of primary refined zinc increased in 1987, as did the production of primary refined lead (an increase of 29 per cent to 201,317 tonnes) with the return to a full year's production at Australia's only primary refining facility at Port Pirie, South Australia.

Detailed exploration and development of a number of deposits continued in 1987. These included Hilton, Lady Loretta, Thalanga, Liontown and Conjuboy, all in Queensland; Scuddles, Blendevale, and Twelve Mile (Lennard Shelf) in Western Australia and Benambra, Victoria.

Black coal

Raw black coal production in 1987 was a record 178.6 million tonnes, 5 per cent higher than in 1986. The output of saleable coal rose by 4 per cent to the record level 144.9 million tonnes. Domestic consumption rose to the record level of 44.7 million tonnes in 1987, mainly due to the growth in use by the electricity and iron and steel industries. Exports rose by 5 per cent to 102.0 million tonnes in 1987 and the value of exports fell to $5,045 million. Of total exports 47.1 million tonnes were shipped to Japan. Australia was the world's leading coal exporter in 1987.

Demand for steaming coal on the international market has remained high. As a result Australian exports of steaming coal rose to 47.1 million tonnes in 1987. Coking coal exports rose by more than 12 per cent in 1987 compared with 1986, to 54.9 million tonnes. This was despite difficulties faced by world steel producers and the consequent over-supply of coking coal on the world market.

Papers dealing with the Australian coal industry have been published in the *Australian Mineral Industry Quarterly*, Vol. 31, No. 1 and Vol. 34, No. 2.

Petroleum

At the end of 1987 there were 106 fields producing stabilised crude oil, which is 5 per cent more than in 1986 (101 fields). In 1987 production of crude oil increased by 6.3 per cent to 29.5 million cubic metres compared to 1986. The 1987 production was only 6.8 per cent below the record production level of 31.6 million cubic metres in 1985. The production of natural gas and condensate rose by 2.1 per cent and 18.1 per cent respectively.

Total refinery input increased by 4.8 per cent and the proportion of total input from indigenous sources remained at 77 per cent as in 1986. Consumption of automotive gasoline (motor spirit) increased by 1.3 per cent. Consumption of all other major petroleum products except fuel oil, lighting and power kerosene, heating oil and bitumen also increased. The quantity of imported crude oil, enriched crude oil, other refinery feedstock and products increased by 0.2 per cent in 1987 compared to 1986, and its value increased by 14.7 per cent from $1,533 million to $1,758 million. Total exports of petroleum products rose in value in 1987 by 19.5 per cent to $2,155 million, compared to $1,804 million in 1986.

The number of exploration wells drilled increased from 139 in 1986 to 226 (211 onshore, 15 offshore) in 1987, and total metres drilled for exploration increased from 266,200 metres in 1986 to 442,944 metres in 1987, an increase of 66.4 per cent. Geophysical exploration continued to decrease during 1987. Offshore exploration resulted in the discovery of one oil, one gas and one oil-gas-condensate fields. Onshore exploration resulted in 21 oil, 19 gas, 7 oil and gas, 7 gas-condensate and 4 oil-gas-condensate discoveries. Development drilling in 1987 was above the level achieved in the 1986. The total of 56 development wells drilled was 51 per cent more than in 1986 (37 wells), and offshore drilling (20 wells) was the same as in 1986. Development wells were drilled offshore in the Gippsland Basin (Flounder and Snapper fields) at Jabiru in the Timor Sea, and at South Pepper, North Herald and North Rankin fields in the Carnarvon Basin of Western Australia.

In 1987 major development projects which were already under construction continued. These included the second phase of the North West Shelf gas project to supply liquefied natural gas to Japan by October 1989, and the establishment of facilities for the enhanced oil recovery project in the Tirrawarra and Moorari fields in the Cooper Basin in South Australia. Plans were announced to develop the Saladin oilfield in the Carnarvon Basin and the Challis oilfield in the Timor Sea. Development drilling was underway at North Herald and South Pepper oilfields south of Barrow Island. These small fields commenced production at a rate of about 1,300 cubic metres per day in early 1988. Other proposals include the construction of a gas separation plant at Darwin for the production of LNG and helium and the duplication of sections of the Roma–Brisbane pipeline. In Bass Strait a 32 kilometre pipeline linking the Bream platform to the West Kingfish platform has been completed and the first oil was produced in mid 1988. Other fields in the area are currently being evaluated for development, and at the end of 1987, plans were announced for the development of the small Whiting, Tarwhine, and Seahorse oilfields.

Economic and sub-economic demonstrated resources of crude oil at 31 December 1987 were 272 gigalitres, an increase from the previous figure of 262 gigalitres at the end of 1986. Economic and sub-economic demonstrated resources of gas increased to 2,240,000 million cubic metres. Expenditure on petroleum exploration decreased 21.8 per cent from $498.1 million in 1986 to $389.4 million in 1987.

Nickel

Mine production of nickel in ore and concentrates was an estimated 73,800 tonnes in 1987. Australia was the third largest world producer after Canada and the USSR. Concentrates produced in Western Australia are smelted at the Kalgoorlie nickel smelter. Some of the matte produced is railed to the Kwinana nickel refinery to be refined to nickel metal and the remainder is exported. Lateritic nickel ore mined at Greenvale, Queensland, is treated at the Yabulu nickel refinery, to produce nickel oxide sinter for export.

Mineral sands

The history of the mineral sands industry is presented in the *Australian Mineral Industry Quarterly*, Vol. 25, No. 1, and updated in the *Proceedings of the Australasian Institute of Mining & Metallurgy*, Symposia Series, No, 46.

Australia is still the world's largest producer and exporter of natural rutile, ilmenite, zircon and monazite. Output of concentrates in 1987 were: rutile production 249,207 tonnes, ilmenite 1,349,500 tonnes, zircon 465,875 tonnes and monazite 12,127 tonnes.

Diamonds

Argyle Diamond Mines Pty Ltd produced 30,332,677 carats of diamonds, retaining its position as the world's leading diamond producer. Argyle's annual production exceeded that of any country in the world, accounting for about 36 per cent of the world's output of natural diamonds. Diamonds from the AK–1 pipe at Argyle comprise about 6 per cent gem, 39 per cent cheap gem, and about 55 per cent industrial grades.

The Bow River Joint Venture completed construction of an alluvial treatment plant about 18km east of Argyle. The new diamond operation commenced production in February 1988 with 625,000 carats per annum.

Uranium

During 1987, uranium was produced from the Ranger and Nabarlek operations in the Northern Territory. Total production for the year was 4,457 tonnes U_3O_8. Uranium exports for 1987 were 3,812 tonnes U_3O_8 at an average f.o.b. unit value of $40.71 per pound U_3O_8. The construction phase of the Olympic Dam copper–uranium–gold project continued through 1987 and 1988 culminating in the commencement of production of uranium oxide concentrates in August 1988. The project has an annual capacity of 1,900 tonnes U_3O_8, however, initial production will be at a rate of 1,550 tonnes U_3O_8 per annum.

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16

WATER RESOURCES

This chapter is divided into two major parts—existing water resources in Australia and the management of these resources. The former provides information on such topics as the geographic background to water resources, surface and ground water supplies and use, and the drainage divisions in Australia. The latter summarises Australian and State assessment and management of water resources.

The information in this chapter is largely derived from the *1985 Review of Australia's Water Resources and Water Use* (published by the Department of Primary Industries and Energy for the Australian Water Resources Council, November 1987, and available from AGPS bookshops).

For information concerning general, descriptive and historical matter *see Year Book* No. 37, pages 1,096–1,141 and *Year Book* No. 51, pages 228–31.

Introduction

Rainfall, or the lack of it, is the most important single factor determining land use and rural production in Australia. Chapter 5, Physical Geography and Climate of Australia contains details on geographical and climatic features that determine the Australian water pattern. The scarcity of both surface and ground water resources, together with the low rates of precipitation which restrict agriculture (quite apart from economic factors), has led to extensive programs to regulate supplies by construction of dams, reservoirs, large tanks and other storages.

Geographic Background

General

Water resources are determined by rainfall, evaporation and physical features including soil, vegetation and geology. Chapter 5, Physical Geography and Climate of Australia, contains a detailed description of the climatic features of the country. A brief description of the landforms appears in *Year Book* No. 61, pages 25–27. In assessing Australia's water resources, dependability and quality of supply must be considered, as well as quantity.

Topography

The major topographical feature affecting the rainfall and drainage patterns in Australia is the absence of high mountain barriers. Australia's topographical features range from sloping tablelands and uplands along the east coast Main Divide, through the low plain and marked depression in the interior to the Great Western Plateau.

Drainage

Only one-third of the Australian land mass drains directly to the ocean, mainly on the coastal side of the Main Divide and inland with the Murray–Darling system. With the exception of the latter, most rivers draining to the ocean are comparatively short but account for the majority of the country's average annual discharge. Surface drainage is totally absent from some arid areas of low relief.

Climate

Australia's large area (7.7 million square kilometres) and latitudinal range (3,700 kilometres) have resulted in climatic conditions ranging from alpine to tropical. Two-thirds of the continent is arid or semi-arid, although good rainfalls (over 800 mm annually) occur in the northern monsoonal belt under the influence of the Australian–Asian monsoon, and along the eastern and southern highland regions under the influence of the great atmospheric depressions of the Southern Ocean. The effectiveness of the rainfall is greatly reduced by marked alternation of wet and dry seasons, unreliability from year to year, high temperatures and high potential evaporation.

Settlement

The availability of water resources controls, to a large degree, the possibility and density of settlement; this in turn, influences the quality of the water through production and disposal of waste. Most early settlements were established on the basis of reliable surface water supplies and, as a result, Australia's population is concentrated along the coast, mainly in the comparatively fertile, well-watered east, south-east and far south-west.

As settlement spread into the dry inland grazing country, the value of reliable supplies of underground water was realised. Observations of the disappearance of large quantities of the rainfall precipitated on the coastal ranges of eastern Australia eventually led to the discovery of the Great Artesian Basin which has become a major asset to the pastoral industry. Development, however, has not been without costs. Significant environmental degradation and deterioration in water quality are becoming evident.

For further information on the influence of water resources on the spread of settlement in Australia *see Year Book* No. 61, page 860.

In the text and tables below, water volume, usage and flow are shown in litres rather than in cubic metres as in earlier issues. Equivalence and terms used are:

(KL) Kilolitres= 1.00 x 10^3 litres (1 cubic metres)
(ML) Megalitres= 1.00 x 10^6 litres
(GL) Gigalitres= 1.00 x 10^9 litres
(TL) Teralitres= 1.00 x 101^2 litres

Surface Supplies

Distribution and volume

As described above, permanent rivers and streams flow in only a small part of the continent. The average annual discharge of Australian rivers has been recently assessed at 398 teralitres (TL) of which 100 TL is now estimated to be exploitable for use on a sustained yield basis. This is small in comparison with river flows on other continents. In addition, there is a pronounced concentration of runoff in the summer months in northern Australia while the southern part of the continent has a distinct, if somewhat less marked, winter maximum.

Variability of flow

Even in areas of high rainfall, large variability in flow means that, for local regional development, most streams must be regulated by surface storage. However, in many areas evaporation is so great that storage costs are high in terms of yield. Extreme floods also add greatly to the cost of water storage, because of the need for adequate spillway capacity.

Potential development

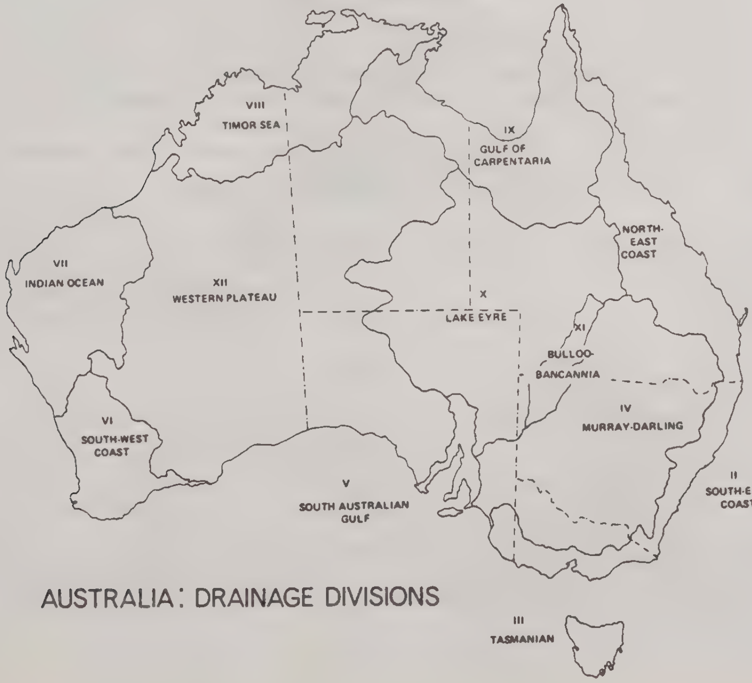
The portion of runoff able to be diverted for use is very low compared to other continents, and results from the high variability of streamflow, high rates of evaporation and the lack of storage sites on many catchments. On an Australia-wide basis, only 21.5 per cent of the divertible resource has currently been developed for use; much of the remaining resource is available in remote regions where development is impractical and uneconomic. In areas such as the Murray–Darling Division, where water is a scarce resource, there are few resources not yet developed, and management is focussing on greater efficiency in water use.

SURFACE WATER RESOURCES AND USE BY DRAINAGE DIVISIONS
(*Source*: Australian Water Resources Council, 1987)

		Surface water resources (teralitres per annum)				
Drainage division		*Mean annual runoff*	*Divertible resource*	*Developed resource*	*Use*	*Use as % of developed resource*
I	North-East Coast	83.9	22.9	3.5	0.97	28
II	South-East Coast	41.9	15.1	4.3	2.03	47
III	Tasmania	52.9	10.9	1.0	0.17	17
IV	Murray–Darling	24.3	12.4	10.0	8.05	81
V	South Australian Gulf	0.9	0.7	0.1	0.23	100 *
VI	South-West Coast	6.7	2.9	0.4	0.38	95
VII	Indian Ocean	4.0	0.3	—	0.00	0
VIII	Timor Sea	80.7	22.0	2.0	0.10	5
IX	Gulf of Carpentaria	92.5	13.2	0.1	0.12	100 *
X	Lake Eyre	6.3	0.2	—	0.01	33
XI	Bulloo–Bancannia	1.1	—	0.00	0.00	0
XII	Western Plateau	1.6	0.1	0.00	0.00	0
Australia		**398**	**100**	**21.5**	**12.06**	**56**

* Includes use of water from unregulated sources.

Drainage Divisions


VIII
TIMOR SEA
IX
GULF OF CARPENTARIA
NORTH-EAST COAST
VII
INDIAN OCEAN
XII
WESTERN PLATEAU
X
LAKE EYRE
XI
BULLOO-BANCANNIA
IV
MURRAY-DARLING
VI
SOUTH-WEST COAST
V
SOUTH AUSTRALIAN GULF
II
SOUTH-EAST COAST
AUSTRALIA: DRAINAGE DIVISIONS
III
TASMANIAN

Ground Water Supplies

About 80 per cent of Australia is significantly dependent on ground water supplies. Australia's estimated sustainable ground water yield is 14.4 TL, and annual ground water usage is estimated at about 2.2 TL.

Ground water is divided according to its occurrence in the three main classes of aquifer:

(i) **Shallow unconsolidated sediments** comprise alluvial sediments in river valleys, deltas and basins; aeolian (windblown) sediments which generally occur in coastal areas; and lacustrine (lake) sediments. These sediments are often highly permeable and porous. Permeability and porosity may vary markedly according to orientation. Unconsolidated aquifers of this group generally occur at depths of less than 150 metres and are often readily accessible to sources of water for recharge. Marked seasonal variations in water level are common.

(ii) **Sedimentary rocks** are generally made up of consolidated sediments. The aquifers owe their porosity to small voids between the grains which are often well compacted and cemented. They often cover significant areas, being continuous and of appreciable thickness. Rock strata usually dip quite gently. Nevertheless, over the full extent of the larger sedimentary basins, aquifers may reach great depths. Areas where recharge takes place may be small in relation to the extent of the aquifers. Water quality in individual aquifers may be quite good and fairly uniform over large areas. Some sediments contain a number of permeable and impermeable layers, creating a vertical sequence of separate aquifers, and water quality may vary greatly between them.

(iii) **Fractured rocks** comprise hard igneous and metamorphosed rocks which have been subjected to disturbance and deformation. Aquifers resulting from the weathering of any rock type are also included in this group. Water is transmitted mainly through joints, bedding planes, faults, caverns, solution cavities and other spaces in the rock mass. The quality of ground water varies considerably and sources are subject to pollution in much the same way as surface supplies. As a general rule, ground water from shallow unconsolidated sediments is of good quality but there are instances where ground water has been polluted, particularly around major urban centres, by sewerage effluent, drainage from refuse tips and from specific industrial pollutants. Supplies from sedimentary basins and fractured rocks are more variable in both quality and quantity, especially in the more arid regions of the continent. High nitrate concentrations tend to be a common occurrence in ground waters in northern and central Australia.

GROUND WATER ESTIMATES OF DIVERTIBLE RESOURCES AND ABSTRACTION BY DRAINAGE DIVISIONS
(*Source:* Australian Water Resources Council, 1985)

		Ground water (gigalitres per annum)		*Abstraction as percentage of divertible ground water (%)*
Drainage division		*Total*	*Abstraction during 1983–84*	
I	North-East Coast	2,010	586	29
II	South-East Coast	1,860	437	23
III	Tasmania	124	5	—
IV	Murray–Darling	2,160	501	—
V	South Australian Gulf	85	56	68
VI	South-West Coast	1,220	296	24
VII	Indian Ocean	508	52	10
VIII	Timor Sea	2,820	15	0.5
IX	Gulf of Carpentaria	1,930	95	5
X	Lake Eyre	619	172	31
XI	Bulloo–Bancannia	100	15	—
XII	Western Plateau	944	9	—
Australia		**14,400**	**2,240**	**15**

(*a*) The divertible ground water resource is the volume of water that can be withdrawn from an aquifer on a sustained basis without depleting the storage; however in practical operation of many ground water storages 'sustained basis' may mean about 30 years or so, rather than indefinitely.

NOTE: n.s. = not significant.

Water Quality

The quality of surface water in Australia varies greatly and is controlled by climate, geology, stream flow rates, biological activity and land use. Most of the variability is related to water events such as storm flows, floods and drought. Water pollution is generally at a low level compared to other similarly developed countries. The great majority of Australians enjoy domestic, irrigation and recreational waters of good to excellent quality.

Very little is known of the water quality conditions which prevailed prior to European settlement and development in Australia. It is therefore difficult to judge the full impact of urban, agricultural, industrial and mining developments, and the effects that water resource development measures, such as large dams, have had on the quality of the resource. Levels of toxic pollutants have undoubtedly increased, as have the salt and sediment loads of the rivers. While water quality would, at times, have been poor prior to settlement, levels are believed to have generally declined. On the other hand, regulation of major rivers has reduced some of the impacts of floods and droughts.

An increasing appreciation of water quality in recent times has led to improved management. Measurable improvements in water quality over the last decade have resulted from pollution controls in industry and mining, and more effective sewerage treatment. Means of control of pollution from widespread agricultural activity such as problems of salinity and turbidity, are under development.

The major water quality issues and problems faced in Australia are salinity, turbidity, excessive plant and algal growths (eutrophication), and water treatment for small community water supplies. There is also a scarcity of data, information and research on some aspects of water quality and the protection of aquatic species and habitats. Many of the severe pollution problems found in other countries have been avoided in Australia, because of the general absence of highly polluting industries and the location of major cities on or near the coastline enabling ocean disposal of wastes.

Ground water is an important substitute for surface water in many parts of the country such as in the arid interior where the Great Artesian Basin provides the only reliable continuous supply of water for stock and domestic purposes. This Basin underlies 23 per cent of the continent but the high ratio of sodium to calcium and magnesium ions has an adverse effect on soil structure, rendering it impervious and generally unsuitable for irrigation.

Ground water is increasing in importance as a source of water for irrigation, industry and domestic supply.

Increasing use is made of conjunctive schemes, for example, where ground water supplies are tapped to augment surface water or where, as in the Burdekin Delta, ground water aquifers are artificially recharged during the summer wet season to enable water to be stored at low cost with negligible evaporation.

Water Use

Total water use or gross water consumed is the water supplied that is not returned to a stream or body of fresh water or diverted for use a second time. The total water use from 1 July 1983 to 30 June 1984 has been estimated to be 14,600 GL corresponding to an overall per capita use of 2,600 litres per day. Of this total, approximately 70 per cent was for irrigation, 21 per cent was for urban or industrial uses and 9 per cent was for other rural water use. Withdrawals for hydro-electric power have not been included. In terms of sources for the water used, by far the largest proportion (over 80 per cent) of water is drawn from surface water. Ground water sources, although of importance in some regions, account for only a minor percentage of the water used.

PURPOSES OF WATER USE
(Gigalitres)
(*Source*: Australian Water Resources Council, 1987)

	Irrigatigation				*Urban and industrial*					
Drainage division	*Pasture*	*Crops*	*Horticulture*	*Total*	*Domestic*	*Industrial*	*Commercial*	*Total*	*Rural*	*Total*
North-East Coast	71	803	92	966	353	147	41	542	149	1,660
South-East Coast	711	137	176	1,020	747	385	228	1,360	144	2,530
Tasmania	46	47	4	97	33	23	10	66	11	174
Murray–Darling	4,120	2,440	1,090	7,650	225	55	47	327	683	8,660
South Australian Gulf	28	2	45	76	141	24	34	198	38	312
South-west Coast	168	24	75	267	211	74	97	382	30	678
Indian Ocean	0.1	2	7	9	24	17	6	48	8	64
Timor Sea	20	46	5	70	23	13	6	42	16	128
Gulf of Carpentaria	17	45	13	74	15	38	4	57	113	244
Lake Eyre	—	3	—	4	10	4	5	9	113	135
Bulloo–Bancannia	0	0	0	0	—	—	0	—	18	18
Western Plateau	0	—	—	—	9	9	3	21	19	41
Australia	**5,180**	**3,550**	**1,510**	**10,200**	**1,790**	**790**	**481**	**3,060**	**1,340**	**14,600**

NOTE: n.s. = not significant.

Major Dams and Reservoirs

A *Register of Large Dams in Australia* was published by the Australian National Committee on Large Dams in December 1982. The publication included, in chronological order, all large dams completed or under construction up to December 1982. In the list below, only dams with a gross reservoir capacity of more than 100 GL have been included. The list is based on the above publication and supplementary data for the latest years.

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA

Name and year of completion	*Location*	*Gross capacity (gigalitres) (a)*	*Height of wall (metres) (b)*	*Purpose*
	NEW SOUTH WALES			
Eucumbene (1958)	Eucumbene River	4,798	116	H/E, IR, R, U
Hume (1936, 1961)	Murray River, near Albury	3,038	51	H/E, IR, R, U
Warragamba (1960)	Warragamba River	2,057	137	H/E, U
Menindee Lakes (1960)	Darling River, near Menindee	1,794	18	IR, R, U
Burrendong (1967)	Macquarie River, near Wellington	1,678	76	F/C, IR, R, U
Blowering (1968)	Tumut River	1,628	112	H/E, IR, R
Copeton (1976)	Gwydir River	1,364	113	IR, R, U
Wyangala (1936, 1971)	Lachlan River	1,220	85	IR, R
Burrinjuck (1927, 1956)	Murrumbidgee River	1,026	79	IR, R
Talbingo (1971)	Tumut River	921	162	H/E, IR,R,U
Glenbawn Dam (1958, 1987)	Hunter River, near Scone	870	100	F/C, IN, IR, R, U
Jindabyne (1967)	Snowy River	688	72	H/E, IR, R, U
Lake Victoria (1928)	Murray River, near S.A. border	680	—	IR, R, U
Keepit (1960)	Namoi River, near Tamworth	423	55	F/C, IR, U
Split Rock (1986)	Manilla River, Namoi Valley.	370	64	IR
Windamere (1984)	Cudgegong River, near Mudgee	368	69	IR
Glennies Creek (1983)	Hunter Valley, near Singleton	284	65	IN, IR, R, U
Tantangara (1960)	Murrumbidgee River	254	45	H/E, IR, R, U
Avon (1927)	Avon River	214	72	U
Mangrove Creek (1983)	Mangrove Creek, near Gosford	170	80	U
Grahamstown (1969)	Grahamstown, near Newcastle	153	12	IN, U
Lake Brewster (1952)	Lachlan River, near Hillston	150	—	IR, R
Liddell (1968)	Gardiner Creek, near Muswellbrook	148	43	IN
Tallowa (1977)	Shoalhaven River, near Nowra	115	43	U
Googong (1978)	Queanbeyan River	125	62	U, F/C

For footnotes *see* end of table.

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA — *continued*

Name and year of completion	*Location*	*Gross capacity (gigalitres) (a)*	*Height of wall (metres) (b)*	*Purpose*
	VICTORIA			
Dartmouth (1979)	Mitta Mitta River	4,000	180	F/C, H/E, IN, IR, R
Eildon (1927, 1955)	Upper Goulburn River	3,390	79	F/C, H/E, IN, IR, R
Thomson (1984)	Thomson River, near Moe	1,175	164	IR, U
Waranga (1910)	Near Rushworth (Swamp)	411	12	IR, U
Mokoan (1971)	Winton Swamp, near Benalla	365	10	IR
Rocklands (1953)	Glenelg River	348	28	R, U
Eppalock (1964)	Campaspe River	312	45	IR, U
Cardinia (1973)	Cardinia Creek, near Melbourne	289	86	U
Upper Yarra (1957)	Yarra River	207	89	U
Blue Rock (1984)	Tanjil River, near Moe	198	75	IN, U
Glenmaggie (1927, 1958)	Macalister River	190	37	IR
Cairn Curran (1958)	Loddon River, near Maryborough	148	44	IR
Yarrawonga (1939)	Murray River	117	22	IR
Toolondo (1952, 1960)	Natural depression, near Horsham	107	—	IR, R
Winneke (1980)	Sugarloaf Creek, near Melbourne	100	89	U
	QUEENSLAND			
Burdekin (1986)	Burdekin River, near Townsville	1,860	55	IR, U
Fairbairn (1972)	Nogoa River, near Emerald	1,440	49	IN, IR, U
Wivenhoe (1985)	Brisbane River, near Ipswich	1,150	59	F/C, H/E, U
Somerset (1959)	Stanley River, near Esk	866	50	U
Fred Haigh (1975)	Kolan River, near Gin Gin	586	52	IR
Ross River (1974)	Near Townsville	417	35	F/C, U
Tinaroo Falls (1958)	Barron River, near Mareeba	407	47	H/E, IR
Awoonga High Dam (1985)	Boyne River, near Gladstone	250	45	IN, U
Glenlyon (1976)	Pike Creek, near Stanthorpe	261	62	IR
Boondooma (1983)	Boyne River, near Proston	212	64	IN, IR
North Pine (1975)	North Pine, near Brisbane	205	44	U
Koombooloomba (1961)	Tully River, near Innisfail	212	52	H/E
Wuruma (1968)	Nogo River, near Eidsvold	194	46	IR
Eungella (1969)	Broken River, near Eungella	131	49	IN, U, IR
Callide Dam (Stage II) (1986)	Callide Creek, near Bileola	127	35	IR, U, IN
Julius (1977)	Leichhardt River, near Mt Isa	127	35	IN, U
Leslie Dam (Stage II) (1985)	Sandy Creek, near Warwick	108	34	IR, U
Lake Moondarra (1957)	Leichhardt River, near Mt Isa	107	27	IN, U
Beardmore (1972)	Balonne River, near St George	101	17	IR, R, U
	WESTERN AUSTRALIA			
Lake Argyle (Ord) (1971)	Ord River, near Kununurra	5,797	99	F/C, H/E, IR
South Dandalup (1973).	Near Pinjarra	208	43	U
Wellington (1933, 1944, 1960)	Collie River	185	37	IR, R
Serpentine (1961)	Serpentine River	185	55	U
Harding (1985)	Harding River, Pilbara	114	42	IN, U

For footnotes *see* end of table.

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA — *continued*

Name and year of completion	*Location*	*Gross capacity (gigalitres) (a)*	*Height of wall (metres) (b)*	*Purpose*
	TASMANIA			
Lakes Gordon and Pedder (1974)—				
Gordon	South West	11,316	140	H/E
Scotts Peak		2,960	43	
Serpentine			38	
Edgar			17	
Miena (1967)	Great Lake	3,356	28	H/E
Lake St Clair (1938)	Central Plateau	2,000 (est.)	3	H/E
Mackintosh (1981)	Mackintosh River, near Queenstown	949	75	H/E
Tullibardine (1981)	Tullibardine River, near Queenstown		25	
Lake Echo (1956)	Lake Echo	725	19	H/E
Lower Pieman	Pieman River, near Queenstown	641	122	H/E
Arthur's Lake (1965)	Source of Lake River, near Great Lake	511	17	H/E
Lake King William (Clark) (1949, 1966)	Derwent River	541	67	H/E
Devils Gate (1969)	Forth River, near Devonport	180	84	H/E
Rowallan (1967)	Mersey River	131	43	H/E
Bastyan (1983)	Pieman River, near Queenstown	124	75	H/E
Cethana (1971)	Forth River, near Devonport	109	110	H/E
	NORTHERN TERRITORY			
Darwin River (1972)	Darwin River	259	31	U

(*a*) Includes 'dead water', i.e., water below the operational outlet of the reservoir. (*b*) As a general rule, the figures shown for height of wall refer to the vertical distance measured from the lowest point of the general foundation to the crest of the dam, i.e., the level of the roadway or walkway on the dam.

Abbreviations: F/C—Flood control and/or mitigation, H/E—Hydro-electricity, IN—industrial and/or mining, IR—Irrigation, R—Rural (stock and domestic), U—Urban supplies.

MAJOR DAMS AND RESERVOIRS UNDER CONSTRUCTION OR PROJECTED

Name	*Location*	*Gross capacity (gigalitres) (a)*	*Height of wall (metres) (b)*	*Purpose*
Crotty Dam	King River, near Queenstown, Tas.	1,091	80	H/E
Proserpine Dam	Proserpine River, near Bowen, Qld	500	45	IR, U
Bjelke Petersen	Barker Creek, near Murgon, Qld	125	33	IR

For footnotes and abbreviations *see* previous table.

Water Management

Australia's water resources are managed by a multitude of irrigation authorities, metropolitan water boards, local government councils and private individuals. State authorities dominate the assessment and control of water resources as, under the Commonwealth Constitution, primary responsibility for management of water rests with the individual State governments. The Commonwealth Government is responsible for matters relating to its Territories, and participates indirectly through financial assistance or directly in the coordination or operation of interstate projects through bodies such as the River Murray Commission. In other instances where political boundaries intersect some river basins, cooperation between governments has been necessary to develop resources.

Australia's attitudes to water resources management have changed substantially over the last twenty years. Water management is no longer seen just in terms of storing water and regulating streams for consumption, but also in terms of conserving unregulated streams in an unmodified landscape for wild life preservation or recreation purposes or for possible social or economic use by future generations. In addition, agricultural, industrial and urban development has led to greater attention being paid to water quality management.

The development of water resources in the States has an important bearing on the Commonwealth's broad interests in economic management, resource allocation, foreign exchange earnings, distribution of income and related matters. Consequently, the Commonwealth has participated in water resource matters in the States in instances of mutual Commonwealth–States concern or in the national interest.

Commonwealth water policy

In September 1984, the Commonwealth released its new water policy. The objectives are to:

- ensure availability of water, adequate in quantity for all beneficial uses;
- adopt measures which improve the efficiency of water supply and use;
- develop a comprehensive approach to inter-related water and land management issues;
- encourage comprehensive long-term plans for the development and management of water resources;
- implement financial and economic policies which distribute the costs of water supplies equitably and provide incentives for the more economic use of resources at government and individual level.

As part of the new water policy, funds are available to the States and the Northern Territory under a program, the Federal Water Resources Assistance Program (FWRAP), which commenced in 1984–85. Funds are available for purposes which include:

- water resource development or management activities/projects for agriculture, urban or industrial purposes;
- floodplain management;
- collaborative information programs;
- salinity reduction and land drainage;
- State-wide and broad regional water plans;
- public education.

The Country Towns Water Supply Improvement Program, which commenced under the Community Employment Program, has been continued as a sub-program of FWRAP.

Australian Water Resources Council—AWRC

The AWRC was established in 1963 by joint action of the Commonwealth and State Governments. The Council consists of the Commonwealth, Northern Territory and State Ministers who have primary responsibility for water resources; it is chaired by the Commonwealth Minister for Primary Industries and Energy.

The Council provides a forum for the water industry. With the shift in emphasis that has occurred in the water industry in recent years from water resource development to resource management and the growing importance of urban water issues generally, the AWRC is extending its scope to focus on industry-wide issues such as pricing and financial policies, resource management, technology and organisational management and strategy. The Council's terms of reference also include the promotion of programs to assess Australia's water resources, the encouragement of education and training in hydrology, the coordination and dissemination of information, the promotion of water research, and development of liaison with overseas and international organisations in the field of water resources.

The Council is supported by a Standing Committee, comprising permanent heads of relevant State authorities and the Commonwealth Department of Primary Industries and Energy. CSIRO and the Bureau of Meteorology are also represented and Ministers can nominate additional representatives in accordance with the requirements of the agenda for each meeting.

Following a review held in late 1984, the Standing Committee is now serviced by four advisory committees which consider issues in water industry planning, surface water and catchments, ground water and water technology. The Council can also establish ad hoc task groups, for advice on particular topics, and is currently being assisted by an Expert Panel on Education and Training, and a National Coordinating Committee on Aquatic Weeds.

Water resources assessment

In 1964, in response to a perceived lack of water resources data throughout much of Australia, the Commonwealth Government instituted, through the AWRC, the National Water Resources Assessment Program. The original aim was to expand the stream gauging network in Australia and increase the level of information on ground water. In 1974, the collection of water quality data was added to the program. The program has been successful in filling many of the data gaps which existed prior to 1964, in providing data and information for water resources planning, construction projects and in the development of the understanding of the nature and function of Australia's water resources. Commonwealth involvement in this program has now ceased. However data collection programs, involving cooperation between Commonwealth and State authorities are continuing in the Murray Basin.

Water resources research

The Department of Primary Industries and Energy is responsible for Commonwealth interests in water resource matters, including research policy and coordination.

A water research program was funded and administered on behalf of the Australian Water Resources Council from 1968 until 1984. In June 1985, the Australian Water Research Advisory Council (AWRAC) was established to advise on national water research needs and on a Commonwealth funded program of water research. Funds totalling $5.9 million were allocated in 1987–88 to research programs recommended by AWRAC. Projects included work on salinity, ground water, stream ecology, water management, water treatment and quality, hydrology and soil or plant–water relations; fellowships; and activities to effectively disseminate the results of research. The Murray–Darling Freshwater Research Centre at Albury and the Urban Water Research Association also received financial support.

The Divisions of Ground Water Research and Water and Land Resources have been amalgamated to produce the new Division of Water Resources. The Centre for Irrigation and Freshwater Research was incorporated into the new Division also giving a total staff of more than 200 with laboratories in Perth, Adelaide, Canberra and Griffith. The Division's task is to develop new and improved practices for the definition, use, and management of Australia's water resources. The Division of Chemicals and Polymers, based at Clayton, Victoria, is responsible for research on new methods of water and wastewater, purification. The Centre for Environmental Mechanics conducts research on soil–water processes, evapotranspiration and physical limnology. The Division of Fuel Technology carries out research aimed at assessing the impact on natural waters of mining and industrial processing. Research on soil–water processes and erosion is conducted by the CSIRO Division of Soils.

CSIRO is a partner with AWRAC, the River Murray Commission, and the Albury–Wodonga Development Corporation in the Murray–Darling Freshwater Research Centre.

At the State level, water agencies have extensive laboratory facilities for water quality testing. However, most water related research is undertaken in research centres associated with agriculture, fisheries, forestry and environmental authorities. At the regional level, some of the larger authorities providing water supply and sewerage services undertake applied research on a very limited scale.

A significant proportion of Australian water research is undertaken by researchers in tertiary education institutions with the aid of either internal funding or grants from outside bodies, such as AWRAC or the Australian Research Grants Committee. Water research is carried out within a range of disciplines, including the biological and social sciences and engineering.

International Aspects

International water organisations

Australia liaises with international bodies and United Nations agencies concerned with water resources and participates in their activities in various ways.

Economic and Social Commission for Asia and the Pacific—ESCAP

This United Nations Commission, through its Committee on Natural Resources, reports on water policy issues in addition to other activities. By participating in this forum and in seminars arranged on selected topics, Australia contributes to, and benefits from, identification of and discussions on the main problems of water resources management in a densely populated, developing region. Australia is also an active participant in ESCAP's water information exchange system and a contributor to ESCAP's Water Resources Journal and its newsletter, *Confluence*.

Organisation for Economic Co-operation and Development—OECD

Australia's membership of the OECD since 1970 has involved participation in the work of the Environment Committee, particularly the Natural Resource Management Group, the Water Management Group and its Group of Economic Experts, which investigates problems which are the subject of international concern and the development of strategies to resolve them.

United Nations Educational, Scientific and Cultural Organization—UNESCO

Australia has contributed to the international program designed to advance the science and practice of hydrology and the International Hydrology Program (IHP), through an Australian UNESCO Committee for the IHP, Australia is a member of the Inter-governmental Council for IHP.

World Meteorological Organization—WMO

Through its Commission for Hydrology, WMO is the specialised UN agency dealing with operational hydrology—the measurement of basic hydrological elements, water resources assessment and hydrological forecasting. WMO has an Operational Hydrology Program

(OHP) which is coordinated with and complemented by UNESCO's IHP. Within the OHP is the Hydrological Operational Multipurpose Subprogram (HOMS) involving the organised transfer of hydrological technology among members. Australia is a contributor to HOMS and has established a HOMS National Reference Centre within the Secretariat of AWRC. In Australia, hydrological and meteorological activities relative to water resources are coordinated by the Secretary of the AWRC as hydrological advisor to the Permanent Representative of WMO in Australia, the Director of Meteorology.

United Nations Environment Program—UNEP
Australia participates in a world registry of major rivers covering discharge and pollutants and of clean rivers so defined and in the development of methodology for analysis and planning of water resources management.

World Health Organisation—WHO
Australia is participating in the water quality monitoring component of the WHO Global Environment Monitoring System (GEMS) which provides a consistent global overview of changes in water quality.

National and Interstate Agreements

In the section on water management above, reference was made to the responsibilities of government on the national, State and local authority levels. In this section, some additional details are provided on their roles in the management of water resources.

The flows of many of the tributaries to the River Murray which make up the Murray–Darling Basin have been regulated for irrigation and water supply purposes. Approximately 27 GL of storage has been constructed in the Murray–Darling basin. Of this, about 12 GL of storage has been constructed along the River Murray, including the barrages, locks and weirs. With an average annual diversion from the Murray of approximately 4 GL, the degree of resource utilisation is only approximately 40 per cent.

River Murray Waters Agreement

The *River Murray Waters Act 1915* ratified an Agreement between the Commonwealth and the States of New South Wales, Victoria and South Australia. *Year Books* prior to No. 39 contain a number of summaries of the historical events leading to the Agreement of 1914 which provided, among other things, for a minimum quantity of water to pass to South Australia. Further details on the River Murray Waters Agreement and subsequent amendments may be found in *Year Book* No. 61, pages 870–2.

The River Murray Commission was established in 1917 to give effect to the Agreement. The main role of the Commission was to manage and regulate the Murray so that its water resources could be efficiently shared between the three States on the River, within the limitations of the River Murray Waters Agreement. It also had responsibility for management of the catchment above Hume Dam and for the management of the flow of water in the Darling River below Menindee Lakes.

From its establishment through to the end of the 1930s, the Commission coordinated the construction of Hume and Lake Victoria storages, Yarrawonga Weir, and weirs and locks along the Murray from Torrumbarry, below Echuca, to Blanchetown in South Australia. In 1940, the Murray Mouth Barrages, and Maude and Redbank weirs on the Murrumbidgee, were completed. Dartmouth Dam, the most recently constructed major structure in the system, was completed in 1979. Four storages, 16 weirs (13 with locks) and five barrages were involved in the regulation of the Murray by the Commission.

The role of the River Murray Commission evolved over the years, and the River Murray Waters Agreement was amended, as community requirements of the River changed. In the 1930s, following the Great Depression and the demise of the river trade, the main emphasis of River regulation shifted to irrigation. From the 1940s, when water began being piped from the Murray for urban and industrial supplies in the 'Iron Triangle' and later to Adelaide, regulation had to ensure that these requirements were also met without delay. It was not until 1982, however, that an amendment to the River Murray Waters Agreement authorised the River Murray Commission to monitor and consider water quality in its operations. The amendment also enabled the Commission to have regard to the possible effect of its decisions on any river or water management objective. These could include environmental or recreational objectives. Before 1982, areas of management, other than water quantity and River regulation, were entirely State responsibilities.

On 1 January 1988, the River Murray Commission was superseded by the Murray–Darling Basin Commission, which assumed all of the responsibilities of the River Murray Commission. In addition, it is responsible for advising the Murray–Darling Basin Ministerial Council on water, land and environmental matters in the Basin. The River Murray Waters Agreement has been replaced by the Murray–Darling Basin Agreement. This evolution has come about following an increased awareness that land, water and vegetation are interrelated and that it is almost impossible to successfully isolate the management of one resource, or one part of the Murray–Darling Basin, from others.

New South Wales–Queensland Border Rivers Agreement

As a result of an Agreement between the Premiers of Queensland and New South Wales, Acts were passed by the Parliament of both States in 1946 and 1947 respectively, establishing the Dumaresq–Barwon, Border Rivers Commission. The Commission is responsible for the conservation and equal sharing of the waters of the Dumaresq River upstream of Mingoola, the regulation of the border rivers downstream of Mingoola and the equitable distribution of the waters of the streams which intersect the Queensland–New South Wales border west of Mungindi.

The duties of the Commission include measurement of stream flows; investigation of proposals for better conservation, regulation and distribution of water resources; and construction and maintenance of dams, weirs, regulators or other works for the storage, regulation and distribution of flows.

The Commission has constructed Glenlyon Dam on Pike Creek in Queensland which has a storage capacity of 261 GL, and a number of regulators and other water distributory works on the river systems under its control.

Snowy Mountains Hydro-electric Scheme

The Snowy Mountains Scheme is a dual purpose hydro-electric and irrigation complex located in south-eastern Australia and on its completion was one of the largest engineering works of its type in the world. It impounds the south-flowing waters of the Snowy River and its tributary, the Eucumbene, at high elevations and diverts them inland to the Murray and Murrumbidgee rivers through two tunnel systems driven through the Snowy Mountains. The Scheme also involves the regulation and utilisation of the headwaters of the Murrumbidgee, Tumut, Tooma and Geehi rivers.

The Scheme was designed and constructed by the Snowy Mountains Hydro-electric Authority, a statutory body established by the Commonwealth Government in 1949, and was substantially completed by 1974. Its installed generating capacity is 3,740 MW and its average annual electricity output is over 5,000 GWh. An average of 2,300 GL of water per year has become available for irrigation in the Murray and Murrumbidgee rivers as a result of the Scheme.

Details of the Scheme are given in a special article, included in *Year Book* No. 70, pages 430–6.

The Snowy Mountains Council, constituted of representatives of the Governments of the Commonwealth, New South Wales and Victoria and the Snowy Mountains Hydro-electric Authority, was established on 2 January 1959. Its main functions are to direct and control the operation and maintenance of the permanent works of the Snowy Mountains Scheme, in particular the control of water and the allocation of loads to generating stations.

States and Territories

The foregoing text deals with water conservation and irrigation in Australia generally and with international, national and interstate aspects. The following material covers the local pattern of water resources and the steps taken by the State governments to bring about their development. In the various States, water policies tend to assume a distinctive and characteristic pattern closely allied with climatic conditions and specific local needs.

In Victoria, almost every form of water scheme is in operation. In New South Wales, the management of irrigation water supplies is an area of major emphasis, with approximately two-thirds of a million hectares under irrigation. In Queensland, up to the present, the predominant emphasis has fallen on water (mainly underground sources) for stock and the development of small irrigation schemes in sub-humid and humid areas, principally to stabilise production of such crops as tobacco, sugar, cotton and pastures. Apart from regular irrigation practices along the Murray River, South Australian authorities are vitally concerned with reticulated supplies for rural areas and towns. Western Australia has developed unique rock catchments and piped supplies for agricultural areas and towns in dry districts. Tasmanian interest relates almost exclusively to hydro-electric generation. The Northern Territory is concerned primarily with water supplies for population centres and mining and pastoral industries.

New South Wales

Administration

The New South Wales Department of Water Resources was set up in 1987, succeeding the previous Water Resources Commission. The Department is responsible for maximising the long term benefits of the State's water resources to meet the changing diversity of water uses and values of the community. Main responsibilities of the Department are to coordinate policies and programs of State and local government authorities providing water supplies and other water services; plan for future water needs; operate the rural water supply network; control the use and management of surface water and ground water resources through water licensing and transfer systems; provide floodplain management and flood mitigation services in non-tidal areas; provide for wetlands, wild and scenic rivers and instream or environmental water needs; improve water quality; control salinity; maintain water resource assessment programs; and effectively manage the State's water infrastructure.

Water use

Irrigation takes up the largest volume of consumption water use in NSW, on average 75 per cent, with urban water consumption in Newcastle, Sydney and Wollongong taking up the bulk of the remaining 25 per cent.

Urban water

Major metropolitan urban water supplies are managed by central water boards at Newcastle and Sydney. Water sources for major cities of Sydney and Wollongong are good quality rivers and associated storages on the Hawkesbury, Georges and Shoalhaven Rivers. Newcastle's water supply is taken from the Chichester and Grahamstown Reservoirs and from ground water in coastal sandbeds. Country towns develop their own water supply systems ranging from run-of-river pumping to ground water extractions, to dams built specifically for urban water supply. Metropolitan water authorities are increasingly managing urban water demand to reduce water consumption by a range of mechanisms including pricing and persuasion. Drought management and asset management are more recent areas of concern for metropolitan water utilities who are also increasing their interest in balanced environmental management of water supply catchments.

Irrigation

The bulk of irrigation in New South Wales is within the Murray–Darling Basin, the centre of recent Commonwealth/State initiatives in land and water management to reduce salinity problems. Twenty four storages, including four shared with Victoria and South Australia and one shared with Queensland, regulate water supplies in the Basin.

Two main irrigation arrangements exist. Statewide, licensed irrigation occurs where licensees take water from rivers, usually by pumping at their own cost. Around 1.5 million megalitres per annum is used in this way.

Irrigation Areas and Districts form the second type of irrigation. These are located on the three southern inland rivers—the Murray, Murrumbidgee and Lachlan and include over 6,300 farms and holdings covering nearly 1.4 million hectares. About a third of this area is usually irrigated using 1.4 million megalitres per annum. Extractions from licensed high-yielding bores now approach 300 gigalitres per annum.

The annual gross value of production in the Murray–Darling system is around $750 million, about 20 per cent of the State's total agricultural production. Nevertheless the growing extent of land degradation and salinisation in the Murray–Darling Basin is reducing productivity and increasing costs of production.

Future planning and programs

With large dams on all the main inland rivers in NSW, few further major irrigation storages are likely to be constructed. Water resources management is now focussed on improved management and efficiency in water supply and use both in the urban and rural environments.

Improving water use efficiency is one management target for the irrigation sector and heavy industry. This is being achieved throughout the State through improved rural water delivery systems, management of urban water demand, and monitoring of agricultural and urban water losses. In the rural sector transferable water rights, licensing and variable water allocations serve to increase water use efficiency.

Ameliorating waterlogging and salinisation of farming lands is an environmental management priority for the Commonwealth and States, and NSW pursues this in its role on the Murray–Darling Ministerial Council. The development of a State Wetlands Policy for NSW is achieving the integration, coordination and consultation required in developing land and water management on a catchment basis including policies of a range of State agencies. Floodplain management and flood irrigation programs are being continued.

Victoria

Administration

Water resources in Victoria are administered by three major agencies, the Department of Water Resources, the Melbourne Metropolitan Board of Works and the Rural Water Commission. The Department of Water Resources is the central policy and planning agency providing advice to the Minister of Water Resources on matters of State-wide interest. The Melbourne Metropolitan Board of Works is a statutory corporation responsible for providing water, sewerage, main drainage and managing waterways and metropolitan parks for the people of Metropolitan Melbourne. The Rural Water Commission is a public business authority whose primiary mission is to sell water and water related services for irrigation, domestic and stock, commercial, industrial, recreational, environmental and other beneficial uses in rural areas throughout Victoria.

Rural water supply systems

Irrigation systems:

- **Goulburn–Campaspe–Loddon.** The main storage is Lake Eildon with a capacity of 3,390 gigalitres. The main products in these systems are dairy products, fruit, wool and fat lambs. Annual production of deciduous canning fruits in the eastern part of the system is about two thirds of Australia's total.
- **Murray River System.** The Murray Valley Irrigation Area and the Torrumbarry Irrigation System are irrigated by water diverted at the Yarrawonga and Torrumbarry Weirs respectively. These areas are devoted mainly to dairying, fat lambs, fruit, vineyards, orchards and market gardens. Downstream from Swan Hill, the First Mildura Irrigation Trust and four Commission Districts are supplied by pumping, and produce mainly dried vine fruits, citrus fruits and table and wine grapes.
- **Southern Systems**. The Macalister district, supplied from the Macalister River and regulated by Lake Glenmaggie, is devoted mainly to dairying.
- **Werribee and Bacchus Marsh.** These districts produce fresh fruit, vegetables and dairy products mainly for the local domestic market. Irrigation is supplied from the Werribee River system which is regulated by three main storages: Pykes Creek Reservoir, Melton Reservoir and Lake Merrimu.
- **Wimmera–Mallee Domestic and Stock Supply System**. Storages in the Grampian Ranges ensure farm water supplies for dry land, pastoral and cereal farming in the Wimmera and Mallee. There are small areas of irrigation supplied from this system near Horsham and Murtoa.

Future programs

Proposed capital works expenditure by the Rural Water Commission continues to place increasing importance on infrastructure replacement and rehabilitation, urban water services, waterways and floodplain management, environmental protection and water quality improvement.

Major provisions in the program include:

- rehabilitation of headworks—Glenmaggie, Coliban, Melton and Cairn Curran;
- replacement, rehabilitation and extensions of rural water supplies, including drainage, and salinity control works.

Queensland

Administration

The control of surface and underground water is exercised by the Commissioner of Water Resources on behalf of the Crown through the licensing of all artesian bores, sub-artesian bores within districts declared for the purpose, and works for the conservation and use of surface water together with the issuing of permits for domestic and stock water use.

In respect of the water resources of the State, the Commissioner is required to prepare a complete description and keep a record of naturally occurring surface and underground water; evaluate the present and future requirements for, and plan the development of, those water resources; take steps to protect the resources from factors likely to be detrimental to their quality or diminish their quantity; investigate and survey any natural water resource; coordinate the investigation, evaluation and development of plans for the control of floodwaters and mitigation of flood damage; construct and manage works for the conservation, replenishment, utilisation and distribution of water; provide advice to local authorities in relation to water supply, sewerage, drainage, flood mitigation and swimming pools; and provide an extension and design service for on-farm development of water resources.

As the water resource assessment and planning authority, the coordination of all the resource is ensured, for the net benefit of the community. This includes rural, urban, industrial, mining and other users to bring the overall planning together for continuity. The Commission assesses the water resources and determines how these can best satisfy present and future demands for water related activities. The Commission develops, manages, operates and maintains all State owned water conservation works, having an overall management role at the broad resource level as well as in day-to-day activities of many areas.

Summary of schemes

Approximately half of the area irrigated in Queensland now uses water from storages constructed by the Water Resources Commission. The balance is irrigated from unsupplemented surface or underground supplies spread widely throughout the State. Because of the predominance of irrigation by private diversion from streams, as opposed to channel systems delivering water to farms, most of the storages release water to maintain supplies downstream.

Irrigation areas

Approximately one-third of the area irrigated in Queensland each year is concentrated in eight Irrigation Areas constituted under the Irrigation Act where the supply is generally reticulated by channel systems to the farms.

Irrigation areas	*Location and source of supply*
Dawson Valley	Centred on Theodore. Four weirs on Dawson River.
Burdekin River	South of Townsville. Dams and weirs on the Burdekin River and its tributaries and including the Burdekin Falls Dam.
Mareeba–Dimbulah	Hinterland of Cairns. Tinaroo Falls Dam.
St George	Centred on St George. Beardmore Dam.
Emerald	Centred on Emerald. Fairbairn Dam.
Bundaberg	Centred on Bundaberg. Fred Haigh Dam and barrages on the Kolan and Burnett Rivers together with upstream weirs.
Eton	Hinterland of Mackay. Kinchant Dam supplemented by diversion of water from Pioneer River.
Lower Mary River	Upstream from Maryborough. Borumba Dam and barrages on the Mary River and Tinana Creek.

Irrigation projects

These are schemes established under the *Water Act 1926–1983*, where water is released from storages to maintain supplies for pumping under licence to land adjacent to the streams. Details of the projects are set out in the accompanying table.

IRRIGATION PROJECTS, QUEENSLAND, 1987–88

	Authorised allocations				*Actual use*		
	Irrigation		*Other uses (a)*				
Project	*Licences*	*Allocation*	*Users*	*Allocation*	*Irrigation*	*Other uses*	*Estimated area irrigated*
	No.	megalitres	No.	megalitres	megalitres	megalitres	hectares
Boyne River	56	11,109	—	—	12,487	—	1,056
Chinchilla Weir	31	3,132	1	1,160	2,028	762	1,040
Dumaresq River	186	63,186	5	2,750	34,392*(b)*	1,461	6,989
Fitzroy River Barrage	111	11,051	—	—	3,586	—	n.a.
Logan River	153	10,012	5	2,024	6,092	1,585	3,500
Lower Lockyer	193	11,545	—	—	5,136	—	5,700
Macintyre Brook	156	18,995	1	400	8,190	328	2,315
Mary Valley *(c)*	296	24,676	3	4,014	9,715	3,582	5,730
Three Moon Creek	100	13,765	3	610	8,906	484	3,500
Upper Burnett	198	19,110	4	1,385	18,685	1,368	2,718
Upper Condamine	71	10,937	25	5,804	8,666	14,565*(d)*	7,500
Warrill Valley	357	15,544	6	16,816	12,970	4,179	10,640
Total	**1,908**	**213,062**	**53**	**34,963**	**130,853**	**28,314**	**50,688**

(a) Comprises industrial, urban, waterharvesting, rural water supply, stockwater and other uses. *(b)* Includes water harvesting. *(c)* Includes water allocations and use in Lower Mary River Irrigation Area. *(d)* Includes water harvesting and ground water substitution.

Rural water supply schemes

Rural water supply schemes based on surface and underground water are constituted under the Water Act to improve water supplies for irrigation, mining, urban, domestic and stock use. These schemes are managed by Boards representing the ratepayers within the areas.

Underground water supplies

The availability of underground water, particularly the Great Artesian Basin, has played a major part in the development of the pastoral industry in Queensland. Underground water is also used extensively for irrigation on individual farms, particularly along the coastal fringe, and for domestic purposes. Some 45 per cent of the area irrigated in Queensland receives its supplies from underground sources. In accordance with the requirements of the *Water Resources Administration Act 1978–1984* the investigation of the availability of underground water is being pursued by geological mapping, investigation drilling and hydro-geological assessment. The predominant areas where water from this source is used for irrigation are the Burdekin Delta, Condamine Valley, Bundaberg, Lockyer Valley, Callide Valley and Pioneer Valley.

Rural Drainage Schemes

Nineteen Drainage Schemes have been established under the Water Act to provide improved drainage to rural areas. Seventeen of the Areas serve cane growing lands in the high rainfall area north of Townsville. The schemes are managed by Boards representing the landholders who benefit from the schemes.

Western Australia

Administration

The Water Authority of Western Australia controls the majority of water-related services in Western Australia. It was constituted under the provisions of the *Water Authority Act 1984*, and administers 8 other Acts and associated by-laws and regulations.

The Water Authority is responsible, under the control of the Minister for Water Resources, for the general administration of the Act. A ten-member Board of Management controls the Authority's operations and reports to the Minister.

The Water Authority is responsible for the following water related services: water supply in the Perth metropolitan area and the majority of country towns; water resources assessment and management throughout the State; Government irrigation schemes; sewerage schemes in the Perth metropolitan area and several country towns; major drains in the Perth metropolitan area and drainage in several country areas.

Water supply

Western Australia has a great variation in the size and complexity of water supply schemes, which range from town schemes serving fewer than 50 people to the Perth metropolitan scheme serving a population of 990,000.

The table which follows shows the principal water storages in Western Australia.

Considerable use is made of ground water by individual farmers, pastoralists, market gardeners, etc., and it is estimated that over 92,000 bores are in use in the State. Both artesian and non-artesian sources are used to supply or augment the supplies of numerous towns, including such major centres as Perth, Albany, Bunbury, Busselton, Carnarvon, Dampier, Esperance, Exmouth, Geraldton, Karratha and Port Hedland. In a number of mining towns in the north-west, mining companies are responsible for the provision of their own water supplies. Industries also use ground water in substantial quantities, particularly in the processing of titanium, iron and alumina.

RESERVOIRS—STORAGE CAPACITY (a)
(Megalitres)

Reservoir	*Storage Capacity*	*Reservoir*	*Storage Capacity*
Canning *(b)*	90,500	Samson Brook	9,170
Churchman Brook *(b)*	2,200	Serpentine Pipehead *(b)*	2,640
Drakes Brook	2,290	Serpentine *(b)*	194,500
Fitzroy	4,650	17-Mile Dam *(c)*	5,489
Glen Mervyn	1,490	South Dandalup *(b)*	208,200
Harding	63,800	Stirling	56,123
Harvey Weir	9,126	Victoria *(b)*	860
Kununurra Lake (Ord River)	97,400	Waroona	14,954
Logue Brook	24,300	Wellington	184,900
Mundaring	77,000	Wungong *(b)*	60,000
Lake Argyle (Ord River)	5,797,000		

(a) At 30 June, 1985. *(b)* On Uralla Creek, an anabranch of the Fitzroy River. *(c)* Serves the Perth Metropolitan Area.

Perth metropolitan water supply

Perth is supplied from a number of dams and pipeheads in the Darling Range and from ground water schemes located on the Swan Coastal Plain. Water gravitates or is pumped from these sources to service reservoirs and tanks located at high points over the metropolitan area for gravity feed to consumers. Perth's water consumption is currently about 190 gigalitres per year and is increasing.

Country water supplies

The Water Authority is responsible for all town water supply schemes in the country towns of Western Australia, with the exception of the Bunbury and Busselton schemes which are run by local Water Boards. There are also a small number of town water supply schemes operated by mining companies. Individual water supplies serve railways, timber mill towns, isolated mines, pastoral properties, stock routes and agricultural areas, mainly from dams, tanks, wells and bores.

In country areas total control has been exercised on ground water usage in Broome, Gascoyne, Swan and South West Coastal Ground Water areas. The control of other areas has been tailored to the specific problems known to exist.

- **Goldfields and Agricultural Areas Water Supply.** This scheme provides water from Mundaring Reservoir to consumers in the Central Agricultural Areas and the Eastern Goldfields.
- **West Pilbara Water Supply Scheme**. The West Pilbara Water Supply serves the towns of Dampier, Karratha, Wickham and Point Samson and also the industrial complexes at Dampier, the Burrup Peninsula and Cape Lambert. Water was previously supplied exclusively from the Millstream aquifer. The Harding Dam, opened in 1985, now provides about 80 per cent of total supply with Millstream providing drought security.
- **Geraldton Regional Water Supply Scheme**. The Geraldton Regional Water Supply serves consumers in the towns of Geraldton, Dongara, Port Denison, Mullewa, Walkaway, Eradu and Narngulu with water being drawn from the Wicherina, Allanooka and Wye Springs borefields.
- **Great Southern Towns Water Supply.** This scheme provides water to the coal mining town of Collie together with towns and farmlands in the Great Southern Area. Water is drawn from Wellington Reservoir, which has a capacity of 185 million kilolitres, and supplied to towns from Brookton and Kondinin in the north to Kojonup and Gnowangerup in the south and to 600,000 hectares of farmland.

- **Port Hedland Regional Water Supply Scheme**. The Port Hedland Regional Water Supply provides water for the consumers of Port Hedland and South Hedland from the complementary De Croy and Yulo River borefields.
- **Lower Great Southern Towns Water Supply Scheme**. This scheme supplies the towns of Albany, Mt Barker and Kendenup. Water is drawn from three sources; Two Peoples Bay east of Albany (from which the water is treated for colour removal), Limeburner's Creek and bores which are located on the west of Princess Royal Harbour.
- **Mandurah Regional Water Supply Scheme.** This scheme provides water to the town of Mandurah and areas to the south and east. Approximately 90 per cent of the water consumed is supplied by gravity from the South Dandalup Dam with the remainder supplied from bores at Ravenswood.
- **Supplies to other country towns.** Nearly 150 towns are supplied with water from stream flow, dams, tanks, wells and bores, the schemes being administered under the provisions of the *Country Areas Water Supply Act 1947*.

The Water Authority is responsible for the provision and maintenance of tanks and wells as a source of cartage water for farmers and a number of small communities in gold mining and agricultural areas.

The Water Authority also undertakes design and construction of water services for Aboriginal communities on behalf of the Commonwealth Department of Aboriginal Affairs. The Authority assists communities in operating and maintaining schemes and training community operators.

Irrigation schemes

The Water Authority is responsible for the operation and maintenance of 7 irrigation and 15 drainage schemes throughout the State from Albany in the south to Kununurra in the north.

Irrigation schemes have been established by the State Government on the coastal plain south of Perth in the Waroona, Harvey, Collie River and Preston Valley Irrigation Districts between Waroona and Donnybrook, the water being channelled from dams in the adjacent Darling Range.

There is a thriving plantation industry situated at Carnarvon near the mouth of the Gascoyne River. This centre is one of the major producers in Western Australia of tomatoes, watermelons, pumpkins, cucumbers, capsicums and runner beans. Carnarvon also supplies capsicums, zucchinis and pumpkins to the eastern States. It produces over half the bananas consumed in Western Australia as well as limited supplies of citrus fruit, mangoes and avocados.

The rainfall at Carnarvon is extremely variable and averages little more than 230 millimetres per annum. Agricultural development has been made possible only by irrigation with ground water. Water is obtained from the growers' own irrigation pumping plants and from the Government-controlled Carnarvon Groundwater Supply Scheme which is supplied from bores along the Gascoyne River.

The Ord Irrigation Project provides for the ultimate development of 72,000 hectares of clay soils and additional areas of sandy soils adjoining the clays. Water is currently supplied to 14,000 hectares.

The Camballin irrigation area is located on the Fitzroy River flood plain in the West Kimberley.

South Australia

Administration

All major water resources and most public water supply schemes in South Australia are administered by the Engineering and Water Supply Department under the various statutes mentioned below.

- The *Waterworks Act 1932*, which empowers the Minister of Water Resources to impound or divert the water from any lake, watercourse or underground source for the purpose of establishing and maintaining public water supply schemes to serve proclaimed water districts throughout the State.
- The *Water Conservation Act 1935–1975*, provides for the control of small reservoirs, bores, tanks, etc. established in remote areas as emergency water supplies or to assist local development.
- The *Murray–Darling Basin Act 1988* (which replaces the *River Murray Waters Act 1983*) ratifies the Murray–Darling Basin Agreement of October 1987. The Department is the delegated constructing and operating authority for the Murray–Darling Basin Commission in South Australia and has built and operates the Lake Victoria regulating storage, nine locks and weirs along the river and the five barrages at the River Mouth.
- The *Water Resources Act 1976*, provides for the management of all aspects of water—surface and underground, quality and quantity. The Act provides for the control of diversions of surface waters from Proclaimed Watercourses and for the withdrawal of underground waters from Proclaimed Regions. It establishes a South Australian Water Resources Council and Regional Advisory Committees as vehicles for public participation in the water resources management process, and a Water Resources Appeal Tribunal to give individuals the opportunity to appeal against decisions of the Minister pursuant to the Act.

Summary of schemes

South Australian irrigation commenced with an agreement involving the Chaffey brothers in 1887 whereby an area was made available for the establishment of certain irrigation works at Renmark. Currently water diversions totalling more than 381,090 ML are made for government, cooperative and private irrigation schemes in the South Australian section of the River Murray. The authority controlling River Murray irrigation is the Engineering and Water Supply Department.

Except for quantities held in various lock pools and natural lakes, no water from the Murray is stored within South Australia for irrigation purposes. In addition to irrigation from the River Murray there are considerable areas irrigated from underground sources.

Adelaide Metropolitan Water Supply

In 1987–88, River Murray pipelines supplied 27 per cent of the total intake to the Metropolitan Adelaide Water Supply System, compared to 19 per cent for the previous year. The principal sources of supply for the nine storages in the Mount Lofty Ranges are the Rivers Onkaparinga, Torrens, South Para, Myponga and Little Para.

Country reticulation supplies

A number of reservoirs in the Barossa Ranges and other local sources are augmented by the Morgan–Whyalla, Swan Reach–Stockwell and Tailem Bend–Keith pipelines which provide River Murray water to extensive country areas. Surface and underground resources have been developed to supply most country centres not covered by the larger schemes.

Murray River irrigation areas

Where irrigation water in excess of plant requirements has been applied, perched water tables develop. Rising to the level of tree roots, these cause the death of orchards from salination and water-logging. Most orchards and vineyards are now drained by plastic and tile drainage systems, thus restoring their health and productivity. Several measures have been taken to reduce drainage water in excess of irrigation requirements. An investigation into the feasibility of replacing open channels with pipe in the remaining unrehabilitated Government irrigation areas has been undertaken, to provide irrigators with a reliable and flexible water supply. An Irrigated Crop Management Service has been initiated by the Department of Agriculture to assist irrigators to improve water use efficiency and productivity. Disposal of drainage water is achieved by pumping to basins on river flats where it is evaporated, or by discharge into the river when it is in flood—apart from those areas connected to the Noora Drainage Disposal Scheme, completed in 1984. In the same year, another salinity project, the Rufus River Groundwater Interception Scheme, was commissioned. This scheme involves intercepting saline seepage to Rufus River (which flows from Lake Victoria to the Murray) and pumping it to an evaporation basin east of Lake Victoria and outside the river valley. In September 1988, approval was obtained for the construction of the Woolpunda Ground water Intercaption Scheme which will significantly reduce the inflow of natural saline ground water in the reach between Overland Corner and Waikerie. Studies are currently being made into the feasibility of further salinity mitigation schemes in the Waikerie area, near Loxton and in the Chowilla Creek area of the River Murray.

Tasmania

Main purposes of water conservation and utilisation

Contrary to popular belief, Tasmania is heavily dependent on water conservation in maintaining reliable sources of supply for irrigation, stock and domestic requirements, and urban and industrial water supplies. This is due to an annual summer drought between January and March, when most run-of-the-river flows only support ordinary riparian needs or very limited irrigation and many smaller streams cease to flow.

The total surface water usage for domestic, industrial, and agricultural purposes in Tasmania is only 1 per cent of the potential exploitable yield, compared with a national figure of about 13 per cent. Despite this, economic, environmental, and social constraints are beginning to restrict further development of the total yield for these purposes.

Excluding power generation storages, the total capacity of water conservation dams in the State is about 150 gigalitres, almost half of which is in on-farm dams.

There is widespread use of farm dams for irrigation which is needed to maintain overall production because of the summer drought and the lack of pasture and crop growth in the State's cold winters.

The vast majority of the State's water resources are used for power generation, based on a large, integrated system of water storages. This system also benefits other water users by enabling greatly increased regulation of many streams.

Administration

In Tasmania, water supply was once exclusively the responsibility of local government authorities, but three statutory authorities, the Hobart Regional Water Board, the Rivers and Water Supply Commission and the North West Regional Water Authority, now operate bulk supply schemes. While the Board is responsible for bulk supplies in the Hobart area, the Commission exercises control over the use of the State's water resources and the Authority controls water supply to a number of northern municipalities.

The Department of Mines administers the development and use of the State's ground water resources.

The Hydro-Electric Commission controls most of the surface water resources in the higher rainfall areas of the State for power generation purposes, and jointly administers certain catchments with the Rivers and Water Supply Commission where other demands exist in addition to power generation.

Rivers and Water Supply Commission

The Commission is empowered by the *Water Act 1957* to take water at streams and lakes, or to issue others with licences to do so; licensing covers supply to specific industries and municipalities as well as for irrigation. The Commission is concerned with drainage trusts' operations, river improvements, irrigation, stream gauging, its own regional water schemes, and with assessing proposals for water supply, sewerage and drainage of towns. It operates in a similar manner to the Hobart Regional Water Board in controlling the water schemes serving the East Tamar region (North Esk Regional Water Supply), the West Tamar area (West Tamar Water Supply) and the Prosser River Scheme near Orford. The North Esk Regional Water Supply Scheme supplies industrial users at Bell Bay and municipalities on the eastern bank of the River Tamar. The West Tamar Water Supply serves the Beaconsfield municipality. The local government authorities retain primary responsibility for reticulation and sale to consumers, except to certain industrial users.

In municipalities not serviced by the Hobart Regional Water Board, the Rivers and Water Supply Commission or the North West Regional Water Authority, the supply of water is a function of the local municipal council.

Irrigation

The Rivers and Water Supply Commission is in charge of three major irrigation schemes, these being the Cressy–Longford Irrigation Scheme (opened in 1974), the South East Irrigation Scheme, Stage I (opened in 1986), both of which supply water via open channel, and the Winnaleah Irrigation Scheme which supplies water via pipelines.

Of the three schemes, Cressy–Longford is the largest (serving 88 properties) with 10,000 hectares being fit for irrigation. The Coal River Scheme is capable of serving 107 properties, of which 3,800 hectares are fit for irrigation. The Winnaleah Scheme serves 1,500 hectares on 72 properties.

The majority of land irrigated in the State in 1986–87 was watered by private schemes either by pumping directly from unregulated streams or from on-farm storages. Pasture still predominates as the major crop irrigated, but other vegetables now constitute 33 per cent of the total area irrigated.

Northern Territory

Administration

Under the *Northern Territory Control of Waters Act 1981*, control of natural waters is vested in the Crown. The diversion of water is prohibited except under prescribed conditions. The Act requires that drilling for ground water be carried out only by drillers who are registered under the Act and who are required to provide the government with information on bores drilled. In particular areas, described as Water Control Districts, where stricter control is necessary, the construction or use of a well or water bore without a permit can be prohibited.

Under the *Water Supplies Development Act 1960*, any landholder engaged in pastoral or agricultural production may seek information or advice from the Commissioner of Water Development who is appointed under the Act.

The Water Resources Group of the Power and Water Authority is responsible for the assessment, planning and management of surface and ground water resources throughout the Northern Territory. It carries out systematic stream gauging, the collection of data relating to the quantity and quality of surface and ground water, flood prevention and control, and waste disposal and baseline inventory. It is involved in water pollution studies and control, and carries out environmental assessments of water and related developments. It also provides an advisory service under the Water Supplies Development Act and administers permits and licences under the Control of Waters Act.

These arrangements have applied since 1 July 1987. It is proposed that Northern Territory water legislation be amalgamated into a new Act to be called the 'Water Act'.

Surface water

Hydrological investigations and data collection are undertaken across the Northern Territory and the data are published by the Water Resources Group. The program includes base stream gauging stations and pluviographs (automatic rainfall recorders).

Ground water

For information on Northern Territory ground water (and surface water) resources see the Northern Territory Department of Mines and Energy's publication *Water Northern Territory*—Volume 1, the Department of Resources and Energy's publications *Australia's Groundwater Resources, 1983* and the Australian Water Resources Council's publication *1985 Review of Australia's Water Resources and Water Use.*

Of approximately 20,000 bores and wells registered in the Territory to 30 June 1988, 24 per cent were for pastoral use, 24 per cent were investigation bores, 33 per cent served urban and domestic supplies, 4 per cent were for agriculture, 11 per cent were used for mining and the remaining 4 per cent for various other uses.

Water supplies

The largest water conservation projects in the Territory are the Darwin River Dam (259.0 gigalitres) and the Manton Dam (15.7 gigalitres) which both serve Darwin with a reticulated water supply. Ground water from McMinns Lagoon area can be used to augment supply.

Most other towns and communities, including Alice Springs, Tennant Creek, Jabiru and Nhulunbuy, are supplied from ground water.

Irrigation in the Territory is expanding, but is not extensive, being confined to locations near Darwin, Adelaide River, Daly River, Katherine, Ti Tree and Alice Springs for the purpose of growing fruit, vegetables, fodder crops, pastures and some dairying. Most of this irrigation is carried out using bore water.

There is increasing demand for water resources assessment studies and assistance for relatively small irrigation projects.

Australian Capital Territory

Surface water

Surface water storages supplying the ACT (population about 250,000) and the city of Queanbeyan (population about 22,500) are located to the south-west and south-east. The storages to the south-west are in the heavily timbered, mountainous Cotter River catchment within the ACT, the storages being Corin Dam (75.5 gigalitres), Bendora Dam (10.7 gigalitres) and Cotter Dam (4.7 gigalitres). The storage to the south-east in New South Wales in the Queanbeyan River catchment (over which the Commonwealth has permanent water rights) on the western slopes of the Great Dividing Range is the Googong Dam (125.0 gigalitres).

The existing storages on the Cotter and Queanbeyan Rivers have an ultimate combined capacity to serve 450,000 persons. The remaining water resource within the ACT is the Gudgenby River which is at present not utilised but has the potential to serve approximately 200,000 persons.

A network of stream gauging stations in the ACT monitors surface water resources while a number of gauging stations are provided with telemeters to provide a flood warning system in association with the Bureau of Meteorology.

Ground water

Ground water in the ACT and environs occurs mainly in fractures in crystalline rock such as granite and volcanic rocks; in folded and fractured slate; and, rarely, in solution cavities in limestone. Alluvial aquifers of significance are restricted to the Lake George basin and small areas along mature sections of the Molonglo and Murrumbidgee rivers. Ground water has been used in the past by most primary producers to augment surface storage. Ground water production bores in the ACT have yields ranging between about 0.4 and 20 KL per hour; 3 KL per hour is about the average yield. However, many farm bores have fallen into disuse as a result of the government's resumption of freehold land within the ACT, and because of the rapid expansion of urban growth. The Bureau of Mineral Resources has provided a bore-siting, ground water-quality and yield-prediction service in and around the ACT since the early 1950s and has maintained a network of observation bores which have been monitored regularly.

The Bureau of Mineral Resources provides technical advice to landholders and drilling contractors on ground water and, occasionally, on runoff.

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ENERGY

In the years since 1973 the world has experienced several major shifts in the cost of energy, and all countries have been affected. Some of the effects have been highly disruptive and there has been general concern that if such shifts were to occur again societies should be in a position to adapt with less disruption. It has been recognised that this will require carefully designed and implemented policies and for that reason governments have devoted considerable resources to the development of energy policy.

Australia has recently undertaken an energy policy review, examining its current energy situation and what the future holds for it. The review began with a series of discussion papers and a conference, culminating with the publication of 'Energy 2000—A National Energy Policy Paper'.

The review highlighted three major energy policy objectives:

- to ensure that there is security or adequacy of energy supplies. This does not mean setting rigid self-sufficiency targets and planning their achievement, but simply ensuring the availability of energy on a commercial basis and at acceptable prices;
- to achieve the most efficient and competitive domestic energy supply industry in order to minimise domestic costs and so sustain internationally competitive industrial sectors, and to contribute to rising standards; and
- to maximise the export earnings of Australia's energy resources consistent with a need to meet overseas requirements for cost competitive energy resources and with environmental and other social objectives.
- Australia is generally well placed to meet these objectives by the year 2000.

Australia has abundant reserves of coal, gas and uranium to meet both export and domestic demands. Given currently known reserves, it can continue current production rates in these energy sources for 360 years (black coal only), 55 years, and 120 years respectively. In fact Australia is one of only five Organisation for Economic Co-operation and Development (OECD) countries that are net energy exporters. Australia is:

- the world's largest exporter of coal, accounting for around 25 per cent of the world coal trade;
- a major uranium producer and exporter, accounting for about 10 per cent of western world production and a greater percentage of its uranium trade;
- currently an exporter of Liquid Petroleum Gas (LPG) and petroleum products, and from 1989 will become a major exporter of Liquefied Natural Gas (LNG).

Estimates of Australia's demonstrated economically recoverable resources of energy in 1987 were:

Black Coal	50 gigatonnes
Brown Coal	42 gigatonnes
Natural Gas	832 billion cubic m
Uranium	470 kilotonnes U
Crude Oil, Gas Condensate and LPG	446 gigalitres

NOTE: Crude oil, natural gas, and condensate as at 30 June 1987. Uranium and coal as at 31 December 1987.

There is one area however, where Australia will rely more on the international market as an importer—crude oil. There will be an increasing disparity between domestic oil supplies and use. This will largely be the result of a marked decline in the production of crude oil from Bass Strait, Australia's main existing production area.

In line with trends in recent years, conservation and greater efficiency in oil use, and the switch to alternative energy sources prompted by the instability and uncertainty surrounding international oil supplies should see oil's share in Australia's total energy demand falling slightly from 39 per cent to 36 per cent in the year 2000.

Advice and Coordination

Institutional arrangements

The Commonwealth Minister for Primary Industries and Energy has portfolio responsibility for national energy policy matters, including the commercial development of hydrocarbon fuels and minerals.

The Department of Primary Industries and Energy provides advice to the Minister on energy policy and provides support for a number of advisory bodies including the National Energy Research Development and Demonstration Council (NERDDC), the Australian Minerals and Energy Council (AMEC), the National Oil Supplies Advisory Committee (NOSAC), the National Petroleum Advisory Committee (NPAC), the National Fuels Emergency Consultative Committee (NFECC), and the Australian Coal Consultative Council (ACCC).

It is also responsible for the implementation of action required from Australia's membership of the International Energy Agency (IEA) and for the national system of accounting for control of nuclear materials under Australia's Agreement with the International Atomic Energy Agency (IAEA).

International Energy Agency—IEA

The IEA was established in Paris in November 1974 as an autonomous institution within the framework of the OECD. Australia joined the IEA in May 1979.

The Agency carries out the International Energy Program and the Long Term Co-operation Program. These programs aim to:

- prepare member countries against risk of oil supply disruptions and share remaining supplies in the event of a severe oil shortfall;
- develop alternative energy sources and the more efficient use of energy through cooperative research and development programs;
- promote cooperative relations with other oil-producing and oil-consuming countries.

The main decision-making body of the IEA is the Governing Board. The Board meets as required at Ministerial level and several times a year at senior official level. The IEA has standing groups on Long Term Co-operation, the Oil Market, Emergency Questions, a Committee of Research and Development and an ad hoc group on International Energy Relations.

Australian Coal Consultative Council—ACCC

The Australian Coal Consultative Council was established in March 1983 to review and report from time to time on the economic and structural problems of the industry. The Council is a tripartite body, chaired by the Minister for Primary Industries and Energy. Its membership comprises the New South Wales and Queensland Ministers responsible for the industry, coal mine proprietors and mining unions. The Australian Mining Industry Council and the ACTU have observer status.

An advisory committee, whose membership reflects that of the ACCC, meets approximately once a month and reports to the ACCC and through it to the relevant Commonwealth and State Ministers.

As part of the Commonwealth Government's long-term strategy for the Australian coal industry, a proposed restructuring of the ACCC into an Australian Coal Industry Development Council, with wider representation and terms of reference, was under consideration at the time of going to print.

Australian Coal Marketing and Technology Council—CMTC

The Coal Marketing and Technology Council was established in 1988 as part of the Commonwealth Government's coal industry strategy. The Council's role is to complement other export control activities, and to address the coal marketing and technology issues that confront Australian industry. The Council serves as a major source of advice to the Minister of Primary Industries and Energy to assist in maintaining the viability of internationally efficient Australian coal mines.

The Council's membership consists of a chairman, industry and union representatives, a commercial marketing expert, and a technical expert.

Research and Development

National Energy Research, Development and Demonstration Program—NERD&D

The NERD&D Program has been established to stimulate the level of energy research, development and demonstration in Australia in line with government energy policy and priorities. Grants under the NERD&D Program are approved by the Minister for Resources, who is advised by the National Energy Research, Development and Demonstration Council. The Council consists of twelve members drawn from government, private industry and tertiary institutions. It is supported by six technical standing committees covering all major areas of energy technology. High priority areas include energy management, oil and gas exploration and recovery techniques, coal combustion, coal evaluation, coal mining productivity and safety, coal beneficiation, production of liquid fuels from natural gas and synthesis gas, and substitution of diesel oil and petrol by natural gas and LPG.

The NERD&D Program is administered by the Department of Primary Industries and Energy. From the start of the program in 1978 to August 1988, $204 million had been committed to research projects undertaken by government, industry and universities.

Additional Commonwealth support for energy research and demonstration is provided through budget appropriations to Commonwealth agencies such as CSIRO, BMR, and ANSTO, and through Commonwealth funding of all Australian universities. The Commonwealth also provides an incentive for research and development through the 150 per cent tax deduction scheme and through the grants under the Industrial Research and Development Scheme.

Commonwealth Scientific and Industrial Research Organization—CSIRO

Energy research within the Institute of Minerals, Energy and Construction is carried out with the objectives of increasing the international competitiveness, export earnings, gross domestic product and value of services provided by the minerals, energy and construction industries. Divisions of the Institute engaged in energy research include Geomechanics, Fuel Technology, Coal Technology, Mineral Products, Mineral Process Engineering and Building, Construction and Engineering. Research on certain renewable sources of energy is carried out at the Centre for Irrigation and Freshwater Research.

Australian Minerals and Energy Council—AMEC

The Australian Minerals and Energy Council was established in April 1976 by agreement between State and Commonwealth mines and energy Ministers, replacing the former Australian Minerals Council. AMEC is principally a body for consultation on minerals and energy matters and provides a forum for Ministers to discuss policy issues of mutual concern and coordinate policy action. An AMEC advisory committee which is composed of the departmental heads or their nominees provides for officer level consultation and information exchange. AMEC establishes committees, sub-committees and working parties to undertake specific tasks and report back through its advisory committee as the need arises.

National Oil Supplies Advisory Committee—NOSAC

The National Oil Supplies Advisory Committee was formed in 1983 by the amalgamation of separate Commonwealth–industry and Commonwealth–State bodies set up during the period of tight oil supply in 1979. Representatives of the Commonwealth Government, State Government energy authorities and major domestic oil producers and refiners meet about twice a year to review the situation and outlook for domestic and international oil supplies. Matters discussed include oil production, new oil and gas developments, imports, exports, stock levels, regional shortages, industrial relations, shipping, technical matters and government policies affecting the oil industry.

National Petroleum Advisory Committee—NPAC

Membership of NPAC is drawn from agricultural, general aviation, fishing, manufacturing, mining, oil, shipping and transport industries, the trade union movement and motorists' organisations, as well as Commonwealth, State and Territory Governments. The Department of Primary Industries and Energy provides the Secretariat for NPAC. In accordance with the NPAC recommendations, the Commonwealth Government has enacted the *Liquid Fuel Emergency Act 1984* and established, with the States and the Northern Territory, the National Fuels Emergency Consultative Committee.

National Fuels Emergency Consultative Committee—NFECC

The NFECC, chaired by the Commonwealth and comprising officials of the Commonwealth, States and the Northern Territory, was established in late 1983 to consult and advise governments on matters relevant to the preparation for, and detailed management of, a national liquid fuels crisis; and to act as the prime channel of consultation between governments in the event of such a crisis.

Energy research and development statistics

Estimates of the expenditure on energy R & D carried out in Australia during 1986–87, and classified by energy objective, are presented in the table below.

The estimate of human resources devoted to energy R & D in Australia during 1986–87 was 2,822 person years. Of this amount, business organisations accounted for 1,176 person years, general government organisations for 780 person years, higher education organisations for 862 person years and private non-profit organisations for 4 person years.

More detailed statistics are contained in the ABS publication *Research and Experimental Development; All Sector Summary, Australia, 1986–87* (8112.0).

ENERGY R&D EXPENDITURE: ENERGY OBJECTIVE BY SECTOR AND SOURCE OF FUNDS, AUSTRALIA, 1986–87
($'000)

		Business enterprises		*General government*		*Higher education*			*Source of funds*	
Energy objective	*Total expenditure*	*Private sector*	*Public sector*	*Commonwealth*	*State*	*Universities*	*CAEs*	*Private non-profit*	*Industry(a)*	*Government(b)*
Production and utilisation of energy—										
Oil and gas—										
Mining extraction techniques	n.p.	n.p.	n.p.	—	123	385	—	—	n.p.	n.p.
Refining, transport and storage	4,758	1,382	—	1,546	—	1,744	86	—	n.p.	n.p.
Other	21,833	n.p.	n.p.	15,771	545	3,537	396	—	n.p.	n.p.
Oil shale and tar sands	n.p.	n.p.	n.p.	2,475	—	621	—	—	n.p.	n.p.
Total oil and gas	*33,800*	*n.p.*	*n.p.*	*19,792*	*669*	*6,287*	*482*	—	*6,776*	*27,025*
Coal—										
Mining extraction techniques	19,490	n.p.	n.p.	1,742	130	387	30	—	13,206	6,284
Preparation and transport	17,257	9,361	1,107	4,522	1,277	762	228	—	9,998	7,260
Combustion	7,510	1,249	4,129	1,163	93	767	110	—	n.p.	n.p.
Conversion	4,043	n.p.	n.p.	1,701	14	1,198	12	—	n.p.	n.p.
Other	11,806	4,589	1,100	3,101	711	2,071	234	—	4,697	7,110
Total coal	*60,108*	*31,844*	*8,009*	*12,229*	*2,225*	*5,185*	*616*	—	*33,332*	*26,775*
Solar energy—										
Heating and cooling	4,716	n.p.	n.p.	—	439	1,864	22	—	2,437	2,279
Photo-electric	n.p.	n.p.	n.p.	—	414	958	147	—	n.p.	n.p.
Thermal-electric	n.p.	n.p.	n.p.	—	143	1,242	10	—	n.p.	n.p.
Total solar	*8,952*	*n.p.*	*n.p.*	—	*997*	*4,064*	*178*	—	*3,484*	*5,467*
Nuclear—										
Non-breeder										
Light water reactor	—	—	—	—	—	—	—	—	—	—
Other converter reactor	—	—	—	—	—	—	—	—	—	—
Fuel cycle	n.p.	n.p.	n.p.	16,716	—	333	75	—	n.p.	n.p.
Supporting technologies	2,198	—	—	1,884	—	307	7	—	6	2,192
Breeder	—	—	—	—	—	—	—	—	—	—
Fusion	n.p.	n.p.	n.p.	2,440	—	3,019	—	—	n.p.	n.p.
Total nuclear	*24,860*	*78*	—	*21,041*	—	*3,660*	*82*	—	*136*	*24,724*
Other primary sources										
Wind	1,362	n.p.	n.p.	—	45	664	15	—	n.p.	n.p.
Ocean	n.p.	n.p.	n.p.	—	—	—	—	—	n.p.	n.p.
Geothermal	n.p.	n.p.	n.p.	—	—	62	—	—	n.p.	n.p.
Biomass	2,811	n.p.	n.p.	—	—	1,096	5	—	1,764	1,048
Other sources and new vectors	2,712	2,106	—	—	—	557	49	—	n.p.	n.p.
Total other primary sources	*7,026*	*3,900*	*632*	—	*45*	*2,380*	*69*	—	*4,105*	*2,921*
Total production and utilisation of energy										
Conversation of energy	*134,745*	*45,567*	*9,179*	*53,061*	*3,936*	*21,576*	*1,426*	—	*47,833*	*86,912*
Industry	13,326	n.p.	n.p.	4,835	69	1,445	129	—	6,176	7,150
Residential and commercial	6,210	n.p.	n.p.	—	271	804	31	261	4,338	1,872
Transportation	n.p.	n.p.	n.p.	50	176	788	203	42	n.p.	n.p.
Other	n.p.	n.p.	n.p.	—	47	55	114	—	n.p.	n.p.
Total conservation of energy	*32,925*	*n.p.*	*n.p.*	*4,885*	*563*	*3,092*	*476*	*303*	*22,160*	*10,764*
Other energy R&D										
Electric power conversion	4,455	1,171	1,868	—	—	1,398	19	—	2,743	1,712
Electricity transmission and distribution	5,412	2,315	1,062	—	—	1,837	198	—	3,250	2,162
Energy storage n.e.c.	3,385	454	800	1,118	—	996	17	—	n.p.	n.p.
Energy systems analysis	1,436	n.p.	n.p.	24	205	883	111	—	n.p.	n.p.
Other	3,369	n.p.	n.p.	178	—	337	5	—	n.p.	n.p.
Total other energy R&D	*18,057*	*n.p.*	*n.p.*	*1,320*	*205*	*5,450*	*350*	—	*10,391*	*7,667*
Total	**185,727**	**72,288**	**16,797**	**59,266**	**4,704**	**30,118**	**2,252**	**303**	**80,384**	**105,343**

(*a*) Excludes private non-profit organisations. (*b*) Includes Commonwealth and State government organisations, universities and colleges of advanced education.

Resources

Black coal

Black coal is currently the largest source of primary energy in Australia. By world standards, in relation to present population and consumption, Australia is fortunate in the availability of easily worked deposits of coal. The country's main black coal fields are located in New South Wales and Queensland, not far from the coast and the main centres of population.

Australia's inferred resources of black coal are very large, amounting to over 550 gigatonnes (Gt). At September 1987, Australia's economically recoverable resources of black coal were estimated to total 50 Gt. They are located largely in the Sydney Basin in New South Wales and the Bowen Basin in Queensland. There are other coal-bearing basins in New South Wales and Queensland, while small deposits are being worked in Western Australia, South Australia and Tasmania. Australian saleable black coal production in 1987–88 was 136 Mt.

For further details relating to the production of black coal in Australia *see* Chapter 15, Mineral Industry. Details about the nature and age of black coal are given in *Year Book* No. 64.

Brown coal

Australia's measured and indicated resources of brown coal were estimated to be 41.9 Gt at 31 December 1987. The main deposits are located in Victoria's Latrobe Valley (over 39 Gt). Small deposits exist in other areas of south Gippsland, in south-eastern Victoria at Gelliondale and in the south-central region at Anglesea, Bacchus Marsh and Altona. Deposits are also known at many places along the southern margin of the continent, and as far north as central Queensland. Large deposits are being tested in the Kingston area of South Australia, the Esperance area of Western Australia and at Rosevale in the north-east of Tasmania.

Because brown coal has a relatively low specific-energy value and high water content, its utilisation depends on large-scale, low-cost mining and negligible transportation costs in its raw state.

In Victoria, the brown coal industry has reached a high degree of sophistication in mining, on-site development for power generation, briquetting and char manufacture. Production of brown coal in Victoria during 1986–87 was 41 Mt. The brown coal deposits of the Latrobe Valley have been developed by the State Electricity Commission of Victoria (SECV) for the generation of electricity.

Petroleum

Australian petroleum exploration activity peaked in 1985, but declined significantly in 1986 when world oil prices collapsed. While activity remained depressed offshore in 1987, the outlook for 1988 is encouraging with a strong upturn expected, particularly in the Timor Sea region. An industry survey released in June 1988 estimates that the number of offshore exploration wells drilled in 1988 would at least double, and possibly treble, the number drilled in 1987. Onshore, exploration activity showed a strong recovery in 1987 and a similar result is expected in 1988. The 1988 outlook, therefore, for petroleum exploration investment in Australia is attractive.

Australia's petroleum exploration trends in recent years have mirrored those experienced overseas. In the UK, USA and Canada exploration activity peaked over the period 1981 to 1985; declined significantly in 1986; remained subdued in 1987 (except for onshore Canada where activity was up 18 per cent); and is expected to recover (except offshore Canada) in 1988.

The prospects of further discoveries of petroleum in Australia are considered to be good, particularly in sedimentary basins off the north-west coast. Consistent with the existing pattern of discoveries, undiscovered oil is likely to be of the light, low sulphur type and more gas fields than oil fields should be found. Assessments by the Bureau of Mineral Resources, Geology and Geophysics indicate that there is a probability of finding an average total of another 380 gigalitres (GL) (2,400 million barrels) of crude oil in Australia. This compares with demonstrated economically recoverable resources of 246 GL (1,547 million barrels) and demonstrated sub-economically recoverable resources of 28 GL (176 million barrels) as at 31 December 1987.

PETROLEUM RESOURCES (a) AS AT 31 DECEMBER 1987
(*Source*: Department of Primary Industries and Energy)

Basin	*Crude oil*	*Gas condensate*	*LPG*	*Sales gas*
	GL	GL	GL	TL
Demonstrated economic *(b)*—				
Gippsland (Vic.)	190	22	47	198
Carnarvon (WA)	30	87	27	710
Cooper/Eromanga (SA/Qld)	15	7	12	80
Amadeus (NT) and Bonaparte (WA/NT)	10	4	11	73
Perth (WA)	1	—	—	5
Bowen/Surat (Qld)	—	—	—	3
Canning (WA)	—	—	—	—
Otway (Vic.)	—	—	—	*(c)*
Total	**246**	**119**	**97**	**1,069**
Demonstrated sub-economic *(d)*—				
Gippsland/Bass (Vic./Tas.)	18	10	5	49
Bonaparte (WA/NT)	1	1	4	47
Carnarvon (WA)	8	4	2	401
Cooper/Eromanga (SA/Qld)	1	1	2	18
Browse (WA)	—	42	—	640
Perth (WA)	—	—	—	—
Amadeus (NT)	—	—	—	10
Bowen/Surat/Adavale (Qld)	—	—	—	6
Total *(e)*	**28**	**58**	**13**	**1,187**

(a) Based on the McKelvey classification which sub-divides resources in terms of the economic feasibility of extraction and their certainty of occurrence. *(b)* Demonstrated economic resources are resources judged to be economically extractable and for which the quantity and quality are computed from specific measurements and extrapolations on geological evidence. (c) Gas resource very small. *(d)* Demonstrated sub-economic resources are similar to demonstrated economic resources in terms of certainty of occurrence but are judged to be sub-economic at present. *(e)* Discrepancies between totals and sums of components are due to rounding.

Crude oil and condensate

Indigenous production at 31,264 megalitres (537 thousand barrels per day) of crude oil and condensate was 0.8 per cent less than production in 1986–87 and 1.5 per cent less than the peak level of production achieved in 1985–86. During 1987–88, a number of new wells began producing in the Bowen–Surat, Cooper and Carnarvon basins. The rate of production of crude oil from the Gippsland basin decreased by 6.3 per cent from the 1986–87 level, but that basin still accounts for 78 per cent of total indigenous crude oil production. The North West Shelf was the major producer of condensate during 1987–88, with 43 per cent of indigenous production sourced in that region.

Export volumes of crude oil and condensate increased by 13 per cent in 1987–88 compared with 1986–87 to a new record of 6,458 megalitres. The main markets were the

United States, Singapore and New Zealand. More than 73 per cent of the exported crude oil and condensate originated from Bass Strait.

Liquefied petroleum gas

Liquefied petroleum gas (LPG) is a valuable co-product of oil and gas production and petroleum refining. The major constituents of LPG are propane, propylene and iso- and normal-butane, which are gaseous at normal temperatures and pressures and are easily liquefied at moderate pressures or reduced temperature. Operations involving LPG are expensive in relation to other liquid fuels because LPG has to be refrigerated or pressurised when transported and stored. LPG is an alternative transport fuel for high mileage vehicles in urban areas as well as a petrochemical feedstock and a traditional fuel.

Identified economically recoverable resources of LPG at December 1987 of 97,000 megalitres (ML) are concentrated in Bass Strait, the North West Shelf and the Cooper Basin.

Production of naturally occurring LPG in Australia in 1987–88 was 3,923 ML. The major contributors to this total were the Bass Strait fields (2,841 ML or 72 per cent of total production) and the Cooper basin (980 ML or 25 per cent of total production). About 61 per cent of domestic LPG production is exported (2,402 ML in 1987–88), mainly to Japan. Domestic consumption of 2,293 ML in 1987–88 was met by 805 ML of product obtained from refineries, with supply shortfalls being met by naturally occurring product and import.

PETROLEUM PRODUCTION IN AUSTRALIA
(*Source:* Department of Primary Industries and Energy)

Year	*Crude oil and condensate*	*LPG (a)*	*Natural gas*
	ML	ML	GL
1982–83	22,069	2,909	11,654
1983–84	26,828	3,132	12,097
1984–85	30,956	3,864	12,963
1985–86	31,734	4,016	14,278
1986–87	31,503	3,927	14,683
1987–88	31,264	3,923	15,249

(a) Naturally occurring.

Natural gas

During 1987–88, 15,249 million cubic metres of natural gas was produced for domestic consumption. This was 3.9 per cent more than in 1986–87. About 10,472 million cubic metres or 69 per cent of natural gas was sourced in the Cooper basin. The North West Shelf contributed 3,611 million cubic metres or 24 per cent to the total.

North West Shelf Project

On 2 August 1985, the Joint Venture Participants (JVP) announced the signing of formal sales contracts for the export of Liquefied Natural Gas (LNG) to Japan from the North West Shelf project. The project is the largest single resource development program ever undertaken in Australia. Exports are to commence in October 1989 and will build up to six million tonnes a year from 1995, under take or pay provisions, until 2008. It is expected that some $50 billion, in dollars of the day terms, in export revenue will be generated. North West Shelf gas will be sold to five electricity and three gas utilities in Japan, which supply a combined market of some 90 million people.

The project is estimated to have a total capital cost of $12 billion, excluding LNG tankers. Of this, $2,100 million has been spent by the JVP for the supply of natural gas to the domestic markets of south-west Western Australia and the Pilbara. It comprises the North

Rankin 'A' platform, a 134 km submarine pipeline, the onshore domestic gas plant and associated site engineering services. The State Energy Commission of Western Australia (SECWA) also constructed a 1,500 km pipeline to service the domestic markets.

The second phase, the export of LNG, currently estimated to cost $9.8 billion, includes on-shore LNG plant ($3,500 million), two more off-shore production platforms, further drilling and pipelines, site engineering and the provision of infrastructure and housing in Karratha. Seven 125,000 cubic metre LNG tankers (costing about $1 billion) will also be required.

A development strategy for the Goodwin field is currently under consideration. The JVP view Goodwin as primarily a condensate project, at least in its initial phase. A decision on its development is anticipated early in 1989. The total cost of the Goodwin facilities has been estimated at $1.5 billion. On 12 March 1985 it was announced that the domestic gas contracts had been renegotiated in order to alleviate a potentially serious revenue shortfall for SECWA. This involved, in part, the waiver by the Commonwealth of a proportion of its share of domestic gas royalties in favour of the State.

The National Liaison Group (NLG) on the North West Shelf was subsequently established to serve as a forum for the exchange of information with a view to increasing Australian content in contracts and purchase orders for the project. It comprises representatives of the Commonwealth and State Governments, trade unions and industry associations together with the JVP. The Commonwealth Minister for Resources is joint chairman with the Western Australian Minister for Minerals and Energy. The aim of the NLG is to maximise Australian content provided cost, quality and performance criteria are met. The fundamental principle is that Australian industry should have a full and fair opportunity to compete in tenders for the project.

The North West Shelf project is one of national significance, with the potential for major impact on Australia's international trading position.

Oil shale

A description of the nature and location of Australian oil shale deposits was given in *Year Book* No. 67.

Major investigations into oil shale development have concentrated on the Condor, Rundle and Stuart deposits.

Uranium

Australia has about 29 per cent of the Western world's low-cost uranium reserves. Deposits occur in the Northern Territory, Western Australia, South Australia and Queensland.

Uranium was first discovered in Australia in 1894 but systematic exploration did not begin until 1944 following requests from the United Kingdom and United States Governments. A number of significant deposits were identified, particularly in the Katherine/Darwin region of the Northern Territory and the Mt Isa/Cloncurry region in Queensland. This initial phase of exploration activity was from 1944 to the late 1950s, reaching a peak in 1954.

In the period from 1954 to 1971, about 9,120 tonnes of uranium oxide concentrate was produced from five plants at Rum Jungle, Moline and Rockhole in the Northern Territory, Mary Kathleen in Queensland and Radium Hill in South Australia. Uranium requirements for defence purposes decreased in the early 1960s, causing uranium demand and prices to fall rapidly, and exploration for uranium virtually ceased.

A revival of interest in the late 1960s was encouraged by the announcement of a new export policy in 1967, designed to encourage exploration for new uranium deposits while conserving known resources for future needs in Australia. The renewed activity which followed was very successful—major discoveries were made in South Australia: Beverley (1969), Honeymoon (1971), Olympic Dam (1975); in the Northern Territory: Ranger

(1970), Nabarlek (1970), Koongarra (1970), Jabiluka (1971); and in Western Australia: Yeelirrie (1970). These and other discoveries have led to substantial additions to Australia's reasonably assured uranium resources which, at December 1987, totalled 470,000 tonnes of uranium recoverable at less than $US80 per kg U.

Commercial production at the Ranger mine commenced in 1981 at a planned rate of 3,000 tonnes U_3O_8 per annum. Plans are in progress to expand production to 4,500 tonnes per annum by 1989, with a further increase to 6,000 tonnes two or three years later. The Nabarlek deposit was mined in 1979 and the ore was stockpiled for later treatment. Production at a planned rate of 1,000 tonnes U_3O_8 per annum, commenced in 1980. Total production to the end of June 1988, as reported by the mine operators amounted to:

Ranger—21,051 tonnes U_3O_8
Nabarlek—10,858 tonnes U_3O_8

The Olympic Dam mine received development approval in early 1984 and construction of the mine commenced in 1986. Production of uranium commenced in 1988 and it is expected a rate of 2,000 tonnes U_3O_8 a year will be attained. The mine will also produce copper, gold and silver.

The Australian Government's uranium policy provides that the mining and export of uranium will continue but only from the Ranger and Nabarlek mines in the Northern Territory and the Olympic Dam mine in South Australia.

All exports of Australian uranium are subject to the most stringent safeguards. Uranium produced in Australia is exported in the form of yellowcake for use in nuclear reactors for the generation of electricity and for the production of radioisotopes and radio pharmaceuticals.

Production of uranium for 1987 was 4,457 tonnes U_3O_8 and exports were 3,812 tonnes valued at around $342 million. The *Nuclear Non-Proliferation (Safeguards) Act 1987* gives domestic effect to Australia's international nuclear non-proliferation obligations which require domestic legislation. The legislation establishes a system of permits for the possession and transport of nuclear material (defined to cover uranium, thorium and plutonium), and other physical items such as equipment and material used in nuclear reactors. The permit and related provisions also deal with the possession and communication of sensitive information about nuclear technology, in circumstances where that information is not already a matter of public record. The legislation is administered by the Australian Safeguards Office.

Thorium

Thorium is a radioactive mineral that is about three times as abundant as uranium, but occurs in fewer geological environments and in lower grade accumulation. Most of the world's resources of thorium occur in monazite, a complex phosphate recovered primarily for its rare-earth content. Primary thorium minerals are resistant to oxidation and form economically important placer deposits as well as hard-rock deposits.

In Australia, monazite is produced from titanium-bearing mineral sands on the east and west coasts. Other thorium occurrences are known, but are uneconomic. Australia presently supplies about 65 per cent of the world's traded monazite. Exports from Australia of thorium and thorium-containing ores require the approval of the Minister for Primary Industries and Energy under the Customs (Prohibited Exports) Regulations.

Solar energy

Solar energy, like wind, tidal and wave energy is, for all practical purposes, inexhaustible and shares with these other energy sources a number of properties which, in general, make it difficult and costly to collect, store and transform into useful work. These inherent characteristics include a relatively low energy intensity and a variation in the availability of the supply arising from geographic, seasonal and daily effects.

Nevertheless, for specific applications such as domestic water and space heating, solar energy is already beginning to play a valuable role in Australia. Some 6 per cent of Australian residences have a domestic solar water heater with the local industry currently producing around 30,000 units annually. The use of passive solar design principles in housing is also increasing as low-cost passive designs are developed.

The best prospects for using many solar energy technologies are in areas of Australia remote from the major electricity grids, where electricity costs can be anywhere from 3 to 20 times those in metropolitan areas. Photovoltaic (solar) cells are being used to meet the electrical requirements of remote telecommunication repeater stations, navigational buoys, water pumps and homestead-scale power supply systems. A locally-developed transportable photovoltaic power supply system has been designed to meet the lighting, refrigeration, communication and water pumping requirements of a small community.

Researchers at the University of New South Wales have developed techniques for producing photovoltaic cells with an energy conversion efficiency of 19 per cent using commercial grade silicon material. In contrast, the efficiency of commercially available photovoltaic cells typically does not exceed 14 per cent.

Wind energy

Using data from the Bureau of Meteorology wind stations, CSIRO has undertaken a continental wind assessment of Australia. In addition, a number of site specific wind resource assessments have been undertaken by CSIRO and other bodies. Broadly, these studies indicate that while the bulk of the Australia's inland has relatively low wind speeds, some coastal and island localities have good wind energy resources, notably on the Western Australian, South Australian and Tasmanian coasts, in Bass Strait and on Lord Howe Island.

At present the use of wind energy in Australia is confined principally to mechanical windmills for water pumping and small wind turbine generators for remote areas. It is unlikely that, in the short to medium term, wind energy will be able to compete on a widespread and large scale basis with coal for electricity generation in Australia. However, wind turbines could find increasing application in remote areas where wind resources are favourable and which currently rely on diesel fuel for electricity production.

A total of 14 wind turbines in the 20–150 kW range have been installed in Western Australia, Victoria, New South Wales and on Cocos, Rottnest and Flinders Islands. A group of 6 locally manufactured 60 kW wind turbines form the basis of Australia's first wind farm at Esperance in Western Australia. Electricity produced by the wind farm is used to supplement that provided tothe Esperance grid by diesel generators. In the first twelve months of operation the wind farm produced some 835,000 kWh of electricity, saving an estimated 250,000 litres of diesel fuel.

Geothermal energy

The most intensive and well-documented study in Australia of subsurface temperatures has been made using bore holes in the Great Artesian Basin. In this basin, about 20 per cent of the indexed bore holes penetrate to depths greater than 1,000 metres and, since the thermal gradients are generally above 30°C per 1,000 metres, it is reasonable to assume that hot water can be obtained from such aquifers. However, of the total number of indexed bores, only a very small proportion have water temperatures exceeding 100°C.

In general, it appears that cost constraints will largely restrict the use of our geothermal resources to the supply of hot water for space heating and light industrial purposes. However, for remote homesteads and communities in areas of the Great Artesian Basin, hot artesian bores may well be used to provide an economically viable alternative source of electricity to that obtained from diesel generators.

An Australian company has developed an organic rankine cycle heat engine which can utilise low grade sources of heat (80–100°C) to generate electricity. A 20 kW version of the engine has been used as the basis for Australia's first geothermal power plant at Mulka Station in the north-east of South Australia. A larger scale power plant (120 kW) is being constructed for use at Birdsville in Queensland.

Ocean energy

A number of potential energy sources are associated with the world's oceans, including mechanical energy in waves and tidal action and thermal energy absorbed by ocean waters.

Tidal energy is a dispersed energy source derived from regular fluctuations in the combined gravitational forces exerted by the moon and the sun at any one point on the earth's surface as the earth rotates. The mean tidal range in the open ocean is about one metre, but under suitable hydraulic and topographical conditions, much higher tides than this can build up in coastal locations.

Theoretically, around Australia there are very large amounts of tidal energy available, especially on the north-west coast where the tidal range is as great as 11 metres. A 1976 study concluded that, at that time, the cost of generating electricity in north-western Australia would be more than three times the cost of electricity generated by a coal fired power plant. This estimate did not take into consideration the significant costs which would be involved in the transmission of electricity produced by the tidal plant to population centres.

Waves are generated by the interaction of the wind with large bodies of water. The amount of energy transferred depends on the wind speed, the distance over which it interacts with the water, and for how long the wind blows. There are plans by a local company to establish the world's largest wave power plant at Esperance in Western Australia. It is envisaged that the plant will have a capacity of 1 MW and will be used to supplement the existing Esperance electricity supply which is provided by diesel generators and a wind farm.

The temperature difference between the surface of the ocean and water located at depth can be as high as 25°C, particularly in equatorial regions (20°S to 20°N). Power cycles can be devised to operate between these temperature differences, thereby providing a source of electricity. No ocean thermal energy conversion systems are ready for commercialisation at this time.

Biomass

Biomass includes crops, wood, agricultural and forestry residues, and animal wastes. Currently, only two forms of biomass are used significantly as energy in Australia. These are firewood and bagasse, both converted to energy by direct combustion.

Approximately 5.5 megatonnes of firewood are currently used annually in Australia, equivalent in energy terms to about 88 petajoules, or 2.5 per cent of Australia's total energy consumption. This proportion of consumption is expected to remain stable through the 1980s.

Bagasse is the fibrous residue remaining after extraction of the juice from sugar cane. It is the major fuel used in the sugar industry, providing about 71 petajoules, or 2.0 per cent of Australia's total energy consumption.

Biomass also has a possible use as a source of liquid fuels for transport, particularly ethanol and methanol. In 1979, the CSIRO completed a survey of the potential for the production of these fuels from agricultural and forestry resources in Australia. The resources considered were both new energy crops and forest plantations, as well as the residues from existing crop and forest production. In estimating potential new crop production, it was assumed that all land with suitable climate, soil and terrain for an energy crop would be available for energy farming except land at present under crops or sown pastures. The total biomass resources considered could provide a net liquid fuels output of 460 petajoules, or about 46 per cent of energy currently used as liquid fuel in road transport vehicles and off-road vehicles (e.g. agriculture, mining and construction equipment). This is a net figure, taking into account the liquid fuel used in production. It does not take into account socio-economic considerations such as more profitable or socially desirable use of the land available for new crops, and must be considered as an upper limit only.

Although technologies have been developed to convert biomass to liquid fuels, studies have shown that liquid fuel derived from biomass is not competitive with petroleum-based fuels at this stage.

Crude Oil Marketing and Pricing Arrangements

Crude oil marketing arrangements were deregulated from 1 January 1988, allowing refiners and producers to negotiate freely with both Australian and overseas suppliers the quantities and prices of crude oil they buy and sell. The Government no longer fixes an Import Parity Price nor requires refiners to absorb quantities of Australian oil at that price, as it did previously under the allocation system.

Crude oil producers now have complete freedom to export crude oil as an alternative to selling on the domestic market, subject to Government policy in times of emergency.

Deregulation presents opportunities which were not available in a regulated market. For example, refiners can manipulate their imports and exports of crude oil and its products to give more flexibility in their selection of feedstocks, thus lowering costs and increasing efficiency. Decisions on major refinery investment and any adjustments necessary if Australia's crude oil self-sufficiency continues to fall should be easier in the deregulated market.

Secondary tax arrangements in the petroleum industry

In addition to general taxation arrangements applying to companies in Australia, petroleum production projects are subject to secondary taxes. The type and rate of secondary taxation (resource rent tax, resource rent royalty, or excise and royalties) depends on the location of the petroleum resource, the date of discovery of the petroleum reservoir and the date upon which production commenced.

A *Resource Rent Tax* (RRT) applies to petroleum projects in the majority of Australia's offshore areas beyond the States' territorial seas. Excluded are the Bass Strait and North West Shelf production licence areas and associated exploration permits. Where RRT applies, it replaces excise and royalties which would otherwise have been levied. The Petroleum Resource Rent Tax Assessment Act and related legislation gained Royal assent in December 1987. It is expected that the Jabiru development in the Timor Sea will be the first project to incur a RRT liability.

A *Resource Rent Royalty* (RRR) policy may be applied to onshore petroleum projects by State Governments. Where RRR is applied the legislation provides for the Commonwealth to waive its crude oil excise whenever the relevant State Government negotiates an acceptable RRR agreement with the project producers and agrees to a satisfactory revenue sharing formula with the Commonwealth.

Excise applies to crude oil production from the Bass Strait and North West Shelf projects offshore and all onshore areas (except Barrow Island where a RRR applies). Excise also applies to LPG produced from offshore projects.

Crude oil excise is based on the annual level of crude oil sales from individual production areas and is levied as a percentage of the realised price received by producers.

Different excise scales are applicable to oil production depending upon the date of discovery of the production area and the date when the area was first developed. In the case of new offshore projects to which excise and royalty apply, and all onshore fields, the first 30 million barrels of crude oil production are exempt from excise. Production beyond this level is subject to the appropriate excise rate.

Oil discovered before 18 September 1975 ('old' oil) attracts a higher rate of excise than oil discovered on or after this date ('new' oil). An 'intermediate' scale also applies to oil produced from 'old' oil fields that were not developed as of 23 October 1984. However, in the case of all onshore fields that commenced production after 1 July 1987, production in excess of 30 million barrels is subject to 'new' oil excise.

A *Commonwealth Royalty* is also levied on offshore petroleum production except in the case where RRT applies. Proceeds are shared, generally on a 32:68 basis by the Commonwealth and the appropriate State or Territory. Thus, Victoria receives a share of the royalty from petroleum produced from Bass Strait, and Western Australia receives a share of the royalties from the North West Shelf. Onshore petroleum rights are vested in the State and Northern Territory Governments and the Commonwealth does not receive a share of this royalty.

Incentives to encourage petroleum exploration and development

Apart from the deregulation of crude oil marketing from 1 January 1988 and the concessions to the crude oil excise regime, the Government has introduced a number of other policy initiatives to encourage petroleum exploration and development in Australia.

On 20 January 1988 the Treasurer announced that Australian participation guidelines for foreign investment policy in respect of new oil and gas development proposals involving total investment of over $10 million will no longer apply. These projects will be allowed to proceed unless judged contrary to the national interest.

On 25 May 1988 in the May Economic Statement the Treasurer announced that the company tax rate would be reduced from 49 per cent to 39 per cent from 1 July 1988. The immediate 100 per cent deductibility of exploration expenditure against company tax has been retained, as has the write-off over 10 or 20 years in equal instalments of expenditure on infrastructure such as pipelines. The general level of tariffs on imports is to be reduced to 10 per cent and 15 per cent over the next four years depending on the tariff category of the equipment. Further, the 2 per cent revenue duty on imports of post wellhead items is being abolished.

The Government continues to release offshore petroleum exploration acreage regularly, usually twice a year. The latest release was made on 5 August 1988 and offered 6 offshore areas in the Western Australian, Victorian and Northern Territory Adjacent Areas.

Pricing of liquefied petroleum gas—LPG

The current pricing arrangements for LPG were introduced on 1 November 1986 and are to be reviewed before 30 September 1988. Under the current arrangements the maximum wholesale price of LPG sold for automotive and traditional domestic, commercial and industrial uses is determined on 1 October and 1 April each year. The price is set at $20 a tonne above the average export parity price of Bass Strait propane for the preceding six month period. These arrangements do not apply to non-traditional commercial, industrial and petrochemical uses or exports. In these areas the price is determined by commercial negotiation.

Reticulated Energy

Electricity and gas establishments in Australia

The census of electricity and gas industries covers distribution as well as production and is conducted as a component of the Australian Bureau of Statistics' integrated economic statistics system. This system has been developed so that data from each industry sector conform to the same basic conceptual standards, thereby allowing comparative analysis between and across different industry sectors. The results of this census are therefore comparable with economic data collections undertaken for the mining, manufacturing, retail and wholesale trade, construction, transport and selected services industries.

The following table shows a summary of operations of electricity and gas establishments for 1986–87. Further details are available in the publication *Electricity and Gas Establishments: Details of Operations, Australia 1986–87* (8208.0).

ELECTRICITY AND GAS ESTABLISHMENTS: SUMMARY OF OPERATIONS, 1986–87

		Establishments at 30 June (No.)	*Employment at 30 June*			*Wages and salaries ($m)*	*Turnover ($m)*	*Stocks*		*Purchases, transfers in and selected expenses ($m)*	*Value added ($m)*
			Males (No.)	*Females (No.)*	*Persons (No.)*			*Opening ($m)*	*Closing ($m)*		
					ELECTRICITY						
New South Wales		29	26,596	3,004	29,600	792.0	5,097.3	399.2	508.9	3,003.0	2,204.0
Victoria		14	19,036	1,800	20,836	579.4	2,345.4	69.5	79.6	1,119.7	1,235.8
Queensland		12	9,374	1,355	10,729	327.6	2,335.0	149.3	211.9	1,471.9	925.7
Other States and Territories*(a)*		19	15,869	1,560	17,429	480.3	2,263.8	159.4	196.6	790.2	1,510.8
Australia—	**1986–87**	**74**	**70,875**	**7,719**	**78,594**	**2,179.3**	**12,041.4**	**777.4**	**997.0**	**6,384.8**	**5,876.3**
	1984–85	83	75,153	7,458	82,611	2,000.8	10,154.4	714.5	631.2	5,214.8	4,856.3
	1983–84	82	75,362	7,275	82,637	1,823.6	9,342.0	696.4	713.5	4,642.5	4,716.5
	1982–83	85	75,209	7,299	82,328	1,689.6	8,343.3	530.6	693.2	4,313.6	4,192.3
					GAS						
New South Wales		20	2,367	532	2,899	69.8	448.3	22.7	22.9	278.4	170.1
Queensland		8	640	136	776	17.0	132.8	8.0	6.8	68.5	63.0
Other States and Territories *(b)*		6	6,253	1,179	7,432	187.2	1,404.8	39.2	39.4	596.1	808.8
Australia—	**1986–87**	**34**	**9,260**	**1,847**	**11,107**	**274.0**	**1,985.8**	**69.9**	**69.1**	**943.0**	**1,042.0**
	1984–85	34	8,788	1,729	10,517	229.4	1,655.2	71.8	70.0	828.5	825.0
	1983–84	34	8,909	1,635	10,544	217.9	1,386.4	72.9	72.0	633.6	752.0
	1982–83	37	9,013	1,571	10,584	206.4	1,158.1	58.7	72.1	545.5	626.0

(a) The number of electricity establishments operating at 30 June 1987 for these States/Territories were: South Australia–9; Western Australia–6; Tasmania–1; Northern Territory–2; and Australian Capital Territory–1. *(b)* The number of gas establishments operating at 30 June 1987 for these States/Territories were: Victoria–1; South Australia–2; Western Australia–1; Tasmania–1; Northern Territory– nil; and Australian Capital Territory–1.

Electricity

Responsibility for public electricity supply rests with the State governments, which control electricity production and distribution through public authorities. The Commonwealth Government's major direct role in the electricity supply industry is its responsibility for the Snowy Mountains Scheme.

Electricity generation and transmission

The following table shows details of thermal and hydro-electricity generated in Australia during recent years.

ELECTRICITY (a)—THERMAL AND HYDRO

Year	*Million kWh*
1982–83	105,933
1983–84	111,696
1984–85	119,188
1985–86	124,381
1986–87	130,122
1987–88	136,840

(a) Figures represent estimates of total electricity generated by public utilities, factories generating for their own use, and factories supplying electricity for domestic and other consumption.

Hydro-electric resources

With the exception of Tasmania, Australia is generally not well-endowed with hydro-electric resources because of low average rainfall and limited areas of high relief. Major hydro-electric potential is confined to Tasmania and the Great Dividing Range areas of Victoria, New South Wales and Queensland, with some small potential on rivers draining into the Timor Sea in Western Australia and the Northern Territory.

The practical potential of hydro-electric power in Australia has been estimated at 24,000 gigawatt hours (GWh) per year, of which about 60 per cent has currently been developed. In 1986–87, hydro-electric generation was 13,949 GWh.

At 30 June 1987 the installed hydro-electric generating capacity of 7,144 megawatts (MW) represented 21 per cent of total installed capacity.

Future hydro development will be mainly limited to environmentally acceptable sites in Tasmania and, to a lesser extent, North Queensland, as most of the low cost resource elsewhere has already been developed. Although hydro-electric power stations will continue to be constructed into the 1990s and probably beyond, hydro's share of total generation will decline as increasing load is met mainly by coal-fired power stations.

Snowy Mountains Hydro-Electric Scheme

The Snowy Mountains Scheme is a dual purpose complex which supplies water for generation and irrigation. It is located in south-eastern Australia, and on its completion was one of the largest engineering works of its type in the world. It impounds the south-flowing waters of the Snowy River and its tributary, the Eucumbene, at high elevations and diverts them inland to the Murray and Murrumbidgee Rivers through two tunnel systems driven through the Snowy Mountains. The Scheme also involves the regulation and utilisation of the headwaters of the Murrumbidgee, Tumut, Tooma and Geehi Rivers. The diverted waters fall some 800 metres and together with regulated flows in the Geehi and Tumut River catchments generate mainly peak load electricity for the States of New South Wales and Victoria and the Australian Capital Territory as they pass through power stations to the irrigation areas inland from the Snowy Mountains.

A special article on the scheme appeared in the Energy Chapter of *Year Book* No. 70.

Gas

Natural gas was not discovered in any quantity until the 1960s. Before then, coal gasification was Australia's main source of reticulated gas. Over the past 20 years about 7,500 km of pipeline have been laid to link the gasfields with the major mainland metropolitan and urban centres. The distribution networks within these centres encompass a further 50,000 km of mains which supply about 2 million domestic, commercial and industrial customers Australia wide.

Whereas in the electric power industry almost all utilities are in the public sector, gas reticulation is a mixture of public and private enterprise with significant interstate activity. More details are provided within the State segments following.

New South Wales

Department of Energy

As part of a broader restructuring of the State's energy supply industries, the Energy Authority of New South Wales was abolished and a new Department of Energy created on 1 July 1987, under the provisions of the *Energy Administration Act 1987*. The new Department continues the activities of the former Energy Authority and has added roles and functions in relation to the electricity councils and the Electricity Commission.

The legislation confers broad powers on the Department to secure the best management of the supply and use of energy in New South Wales. This involves oversighting the planning of additional electricity supply capacity and of the supply and distribution of electricity, gas and petroleum products. The Department also promotes the efficient and safe use of energy in business, transport and residential sectors.

The State Energy Research and Development Fund (SERDF) was established by the *Gas Act 1986*. The Fund which is administered by the Department of Energy provides financial support for the development, demonstration and commercialisation of new energy technologies, manufacturing processes and techniques likely to benefit NSW.

SERDF is funded by contributors from the gas and electricity industries with $5.2 million available to the Fund in 1987–88, the first full year of operation.

In 1987–88, the Department undertook or funded a range or R&D projects and programs mainly in the areas of solar and wind technologies, coal and wastes utilisation, energy end-use efficiency, energy planning and electricity technology. Amounts spent or committed in these areas totalled $3.6 million.

The Department also administers the Electricity Development Fund (EDF) established under the Electricity Act on 1 July 1987. Through the EDF, the Minister for Energy arranges financial transfers between electricity supply authorities which provide financial support to County Councils to assist them to maintain their supply system and to implement various tariff rationalisation measures introduced by the State Government. The subsidy in the year ended June 1988 amounted to $34 million. The EDF is also used, inter alia, to meet premiums for a joint electricity distribution industry general liability insurance coverage.

The Department continues to administer the Rural Electricity Subsidy Scheme, new approvals for which terminated on 30 June 1982. Under the scheme, the rural electrical development of the State has now been virtually completed in areas where the extension of supply is currently economically feasible. Electricity supply authorities receive subsidies towards the cost of new rural lines. At 30 June 1988 the scheme was committed to the payment of $46,924,963 in subsidies, of which $44,206,708 had been paid.

The Traffic Route Lighting Subsidy Scheme provides for financial assistance to councils towards the cost of installation of improved lighting on traffic routes traversing built-up areas with the objective of reducing the incidence of road accidents at night.

Electricity Commission of New South Wales and electricity supply authorities

The main function of the Commission is the generation and transmission of electricity, which it sells in bulk to distributing authorities (mainly local government bodies) throughout a large part of the State, to the government railways and to certain large industrial consumers.

As the principal generating authority, it is also responsible for the development of major new power sources except in the Snowy Mountains region.

The retail sale of electricity to the public is, in general, carried out by separate electricity supply authorities. At 30 June 1987 there were 26 retail supply authorities throughout the State, comprising 23 electricity county councils (consisting of groups of shire and/or municipal councils), 1 city council, 1 shire council and 1 private franchise holder.

Generation and transmission

Of the State's electrical power requirements during the year ended 30 June 1987, almost all was generated in New South Wales (over 90 per cent by six major thermal power stations and the balance from the Snowy Mountains Hydro-Electric Authority and other hydro-electric stations). Interchange with other States and other small generating authorities in New South Wales was negligible.

At 30 June 1987, the major power stations of the Electricity Commission of New South Wales State system and their effective capacities were as follows: Bayswater (Hunter Valley) 2,640 MW; Liddell (Hunter Valley) 1,840 MW; Munmorah (Tuggerah Lakes) 1,200 MW; Vales Point (Lake Macquarie) 1,890 MW; Eraring (Lake Macquarie) 2,640 MW;

and Wallerawang (near Lithgow) 1,030 MW. The total nominal capacity of the Electricity Commission's system as at 30 June 1987 was 12,130 MW. The greater part of the Commission's generating plant is concentrated within a 185 km radius of Sydney.

Several local government bodies operate their own power stations and generate a portion of their requirements which is supplemented by interconnection with the system of the Electricity Commission. The aggregate effective capacity for the whole of New South Wales systems and isolated plants was approximately 12,165 MW at 30 June 1987 while the number of retail consumers at this date was 2,288,488.

The retailing of electricity to 97 per cent of the population of New South Wales is in the hands of local distributing authorities, which obtain electricity in bulk from the Commission's major State network. This network of 500 kV, 330 kV, 220 kV,132 kV, 66 kV and some 33 kV transmission lines links the Commission's power stations with the major load centres at Sydney, Newcastle and Wollongong and throughout much of the remainder of the State extending geographically over 650 kilometres inland.

New developments

Two 660 MW units are being installed at Mount Piper Power Station which is located on the western coalfield near Lithgow. Commissioning of the Mount Piper station is planned for the early 1990s.

Construction work is continuing on a 153 km transmission line between Wagga Wagga and Darlington Point. This 330 kV line plus the construction of a 398 km 220 kV transmission line between Darlington Point and Buronga, will reinforce supply to the south western part of the State.

Hydro-electricity

The greater part of the hydro-electric potential of New South Wales is concentrated in the Snowy Mountains area, which is controlled by the Snowy Mountains Hydro-Electricity Authority. Apart from this area, major hydro-electric stations are in operation at the Warragamba Dam (50 MW) and Hume Dam (50 MW). In addition, there are five smaller hydro-electric installations in operation in various parts of the State. A pumped-storage hydro-electric system to produce 240 MW has been installed as part of the Shoalhaven Scheme in conjunction with the Metropolitan Water Sewerage and Drainage Board.

Gas reticulation

Natural gas (NG) was made available to Sydney consumers with the completion of an overland supply pipeline from the Moomba field in South Australia in 1976. During the following five years, lateral pipelines were completed to Wollongong (1978), Bowral–Mittagong (1979), Goulburn (1980) and Canberra, Queanbeyan and Wagga Wagga (1981). A major trunk line between Sydney and Newcastle was completed in 1982. A lateral pipeline to Bathurst, Orange and Lithgow was completed in 1987, and Young was connected to natural gas in 1988.

With the connection of natural gas pipelines into existing reticulation systems, the use of gas manufactured from coal or petroleum has been entirely superseded in the main population centres of the State. By mid 1987, most of the Sydney homes with reticulated gas supply had been converted to the direct use of natural gas, with this program being scheduled for completion in 1991. At June 1987, Sydney users of direct and processed natural gas totalled about 380,000 residential accounts and 17,000 other users (mainly commercial/industrial).

A smaller number of regional centres not yet connected to the natural gas distribution network still retain their own manufactured gas production and reticulation systems. These systems are operated either by local government or by commercial interests. However, together they account for less than 3 per cent of total sales in New South Wales.

The total amount of gas (all types) available for issue through mains in New South Wales was 93,689 terajoules in 1986–87.

Work still in the development stages includes extraction of methane gas from coal seams south of Sydney and the investigation of potential bulk natural gas storage facilities adjacent to the main population centres.

Victoria

State Electricity Commission—SEC

The SEC is Australia's largest electricity supply authority and individual coal producer. It is a semi-government authority with the principal responsibility of generating or purchasing electricity for supply throughout Victoria. It may own, develop and operate brown coal open cuts and briquetting plants and develop the State's hydro-electric resources. It is required to meet, from its own revenue, all expenditure involved with operating its power and fuel undertakings and to provide for statutory transfers to the consolidated revenue of the State. In 1986–87 its revenue was $2,021 million. At 30 June 1987 it had total fixed assets of $9,316 million and a staff of 21,890.

The SEC was established by an Act of the Victorian Parliament in 1921 and now operates under the *State Electricity Commission Act 1958*. Since it began operating, the SEC has expanded and coordinated the generation, purchase and supply of electricity on a State-wide basis to the stage where its system provides almost all the electricity produced in Victoria and its transmission covers almost the entire population of the State. At 30 June 1987 it distributed electricity directly to 1,486,000 customers and indirectly to a further 280,000 through 11 metropolitan councils which buy power in bulk for retail distribution under franchises granted by the Victorian Government before the SEC's establishment.

Existing electricity system

The State Electricity Commission Act requires the SEC to apply the natural resources of the State. Of the State's recoverable fossil fuel reserves, brown coal represents 95.0 per cent, natural gas 2.6 per cent and oil 2.4 per cent. The SEC therefore has committed itself to increasing the proportion of total Victorian requirements met with coal based energy.

Victoria's electricity system is based upon the State's extensive brown coal resource in the Latrobe Valley, 140 to 180 km east of Melbourne in central Gippsland. It is one of the largest single brown coal deposits in the world, amounting to 200,000 megatonnes, of which 52,000 are presently economically recoverable.

The coal is young and soft with a moisture content of 60 to 70 per cent and occurs in thick seams located from relatively close to the surface to a depth of several hundred metres. The coal can be won continuously in large quantities and at low cost by a specialised mechanical plant. The SEC's coal-fired power stations have been established near the coal deposits because the coal's high moisture content would make the coal expensive to transport.

The major brown coal-fired generating plants in the system are the 2,000 MW Loy Yang 'A', the 1,600 MW Hazelwood and 1,450 MW Yallourn 'W' power stations. Other brown coal-fired plants are Morwell (170 MW) and Yallourn 'E' (240 MW). These stations are all located in the Latrobe Valley and generate 80 per cent of the State's electricity requirement.

Other thermal stations are Jeeralang (465 MW) gas turbine station in the Latrobe Valley and Newport 'D' (500 MW) gas-fired station in Melbourne. There are hydro-electric power stations in north-eastern Victoria: Kiewa (184 MW), Dartmouth (150 MW) and Eildon–Rubicon–Cairn Curran (135 MW). Victoria is also entitled to about 30 per cent of the output of the Snowy Mountains Hydro-Electric Scheme and half of the output of the Hume hydro-electric station near Albury.

The SEC's total installed generating plant capacity at 30 June 1987 was 7,503 MW, including both capacity within the State and that available to it from New South Wales.

In 1986–87 electricity generated by the SEC in its thermal and hydro-electric power stations, or purchased, totalled 30,589 GWh.

Power station construction

Construction of the Loy Yang 'A' power station complex south-east of Traralgon in the Latrobe Valley was authorised by the Victorian Government in 1976. It is the largest single engineering project undertaken in Australia. Coal-fired, Loy Yang will provide base load electricity for the Victorian grid and almost double the State's generating capacity. The project comprises two power stations, Loy Yang 'A' with a capacity of 2,000 MW in four 500 MW units and Loy Yang 'B', with a currently approved capacity of 1,000 MW in two 500 MW units.

Transmission and distribution

The Victorian electricity distribution system has been completed, except for some isolated and remote areas of the State. Main transmission is by 500, 330, 220 and 66 kV lines which supply the principal distribution centres and interconnection between generating sources.

Three 500 kV transmission lines and six 220 kV lines link the Latrobe Valley stations with Melbourne and the State grid while three 330 kV lines provide the interstate link, two through the Snowy scheme. Bulk distribution of power throughout the main regional areas is by 220 kV lines to terminal stations which reduce the voltage to 66 kV or 22 kV for delivery to zone substations for further distribution. Feeder lines then deliver to distribution substations which in turn reduce the voltage to 415/240 volts for reticulation to individual customers. Some big industrial concerns take power at higher voltages.

The main transmission grid is currently being augmented to provide for increased power from the Latrobe Valley and to meet load growth in north-eastern and western areas of the State, the Mornington Peninsula and the Gippsland region. Work is well advanced on an interconnection with the South Australian electricity system by means of a 275 kV transmission line between Heywood and Mount Gambier.

Gas reticulation

The Gas and Fuel Corporation of Victoria is the largest gas undertaking in Australia, the sole reticulator of gas in Victoria, and a major marketer of liquefied petroleum gas (LPG). Constituted on 6 December 1950, it was formed by merging the interests of the privately-owned Metropolitan and Brighton Gas Companies with the State Government. (Through its predecessor, the Metropolitan, the Corporation is descended from the first gas company in Victoria— The City of Melbourne Gas and Coke Company founded in 1850 and incorporated in 1853.)

The merger gave the newly-formed Corporation an unusual status—that of a public authority owned jointly by the State and private shareholders. With its expanded capital structure, the Corporation was able to build a plant at Morwell to gasify indigenous brown coal, with the objective of improving Victoria's gas supply. Commissioned in 1956, the Lurgi high pressure brown coal gasification works supplemented metropolitan gas production until the introduction of natural gas in 1969.

Commercial reserves of natural gas were discovered in the offshore Gippsland Basin in 1965 by Esso–BHP from which the Corporation purchases, under agreement, the State's natural gas requirements.

Supply is drawn from the Marlin, Barracouta, and Snapper fields in Bass Strait, and transported by pipeline to an onshore treatment plant at Longford, near Sale. Before it enters the Corporation's transmission system, an odorant is added to give the gas a distinctive smell, for safety reasons.

The Corporation reticulates gas, 99 per cent of which is natural gas, through a 20,000 kilometre network of underground transmission pipelines and mains to more than one million industrial, commercial, and domestic consumers.

Queensland

Electricity reticulation

The electricity supply industry operates under a two-tier structure consisting of the Queensland Electricity Commission and seven Electricity Boards, and provides an essential part of the infrastructure of Queensland. Its role is to ensure the safe, reliable, economic supply and appropriate use of electricity.

It is responsible to the Minister for Mines and Energy to carry out this function, and is regulated by the *Electricity Act 1976–1988*.

The Queensland Electricity Commission constructs and operates the power stations and high voltage transmission system providing Queensland's public electricity supply. The Commission is also responsible for the forward planning necessary for the orderly development of the industry, determination of retail electricity prices, and coordinating the activities of the seven Electricity Boards.

The Electricity Boards purchase electricity in bulk from the Commission and extend supply to over 1,070,000 industrial, commercial and domestic customers. Each Electricity Board is directed by a five member board appointed by the Government. The Electricity Commissioner is an ex officio member while the other four members are residents of the Board's area of electricity supply appointed by the Governor in Council, two of these being selected from a list of five persons submitted by the local authorities in the area. Electricity Boards report to the Minister through the Queensland Electricity Commission.

Electricity generation, transmission and distribution

Demand for electricity is currently increasing at about 6 per cent annually. Energy generated during 1987–88 exceeded 22,200 GWh with a maximum demand of 3,526 MW.

The State's power supply is now predominantly based on recently constructed large capacity power stations. For the year to 30 June 1988, almost 94 per cent of electricity requirements were sourced from power stations constructed during the late 1970s and the 1980s at Gladstone (1,650 MW), Tarong (1,400 MW) and Callide (350 MW). The availability of these stations has allowed the closure of older, small capacity, high operating cost plant. The Wivenhoe pumped storage station of 500 MW capacity is used to manage daily cycle loads by pumping to high storage at times of low demand and hydro-generation at peak periods.

The Commission's two hydro stations at Barron Gorge and Kareeya in the north of the State contributed approximately 2 per cent of the total energy generated. The combined capacity of these stations is 132 MW.

Other generation facilities include six gas turbine installations with a total capacity of 178 MW, and other coal fired thermal stations totalling 642 MW. Small internal combustion stations with a capacity of 59 MW are operated at locations remote from the interconnected grid.

At 30 June 1988, the total generating capacity in the State was 4,911 MW. The length of the transmission system rated at 110 KV and above in circuit kilometres was 11,605.

New development

By March 1989, the second 350 MW unit at Callide Power Station will be commissioned.

First operation of the 1,400 MW Stanwell Power Station is planned for 1993 to meet the rate of growth occurring in electricity consumption. The completion of the fourth 350 MW unit is due in 1996.

A feasibility study is in hand for a hydro-electric power station at Tully Millstream to follow Stanwell. This feasibility study is expected to conclude towards the end of 1988. The proposed station of 600 MW capacity is being planned to start production in 1997.

Gas reticulation

Queensland has a reticulated town gas system in the Brisbane region and in the cities and towns of Bundaberg, Cairns, Roma, Dalby, Oakey and Toowoomba. By June 1987 there were over 2,954 kilometres of mains laid in these centres and the systems serviced 158,786 consumers. Roma, Dalby, Oakey, Toowoomba, South Brisbane and the main industrial areas of North Brisbane reticulate natural gas, whereas Bundaberg, Cairns and the domestic–commercial areas of North Brisbane reticulate reformed town gas. Total sales of natural gas in 1986–87 were 17,056 TJ compared with 17,325 TJ in 1985–86. Sales of reformed town gas were 1,099 TJ and 1,053 TJ respectively.

Western Australia

State Energy Commission of Western Australia

On 1 July 1975 the Government of Western Australia combined the State Electricity Commission and the Fuel and Power Commission to form a new organisation known as the State Energy Commission of Western Australia. The Commission is specifically responsible for ensuring the effective and efficient utilisation of the State's energy resources and for providing economical and reliable supplies of electricity and gas.

Electricity generation and distribution

The Commission owns and operates three major thermal power stations. These are located at Muja (1,040 MW capacity) and Bunbury (120 MW), both using local coal to produce electricity, and at Kwinana (900 MW). Kwinana power station has the capacity to burn coal, oil or natural gas, although natural gas (from the North West Shelf) is the major fuel used. A small (2 MW) hydro-electric station is situated at Wellington Dam near Collie, and there are 20 MW capacity gas turbine generating units at Geraldton, Kalgoorlie and Kwinana.

Two power grid systems operate in Western Australia and supply the electricity needs of 98 per cent of the State's population. The two systems are:

- *The South West interconnected system.* Power from the three major stations provide the bulk of electricity fed into the South-West system. Gas turbines from Kwinana, Kalgoorlie and Geraldton provide back-up supplies. This grid services the metropolitan area and covers the southern portion of the State extending from Kalbarri south to Bremer Bay and from Perth east to Kalgoorlie. Kalgoorlie was brought into the South-West grid system in 1984 following construction of a 680 km transmission line from Muja, one of the longest radial feed lines constructed in Australia.
- *The Pilbara interconnected system.* This system was established during 1985–86 and interconnects Karratha, Dampier, Cape Lambert, Wickham, Roebourne and Port Hedland. Electricity is supplied from a generating plant at Cliffs Robe River Iron Associate's power station at Cape Lambert. The plant is fuelled by North–West Shelf natural gas. Back-up supplies come from the Commission's stand-by diesel power generating facility at Redbank (Port Hedland) or from Hamersley Iron Pty Ltd's power station at Dampier.

In areas too remote to utilise the interconnected grid systems, the Commission operates 29 diesel power stations. The Commission owns and operates 10 of these stations while the remaining stations are owned by local authorities but operated by the Commission under the Country Town's Assistance Scheme (CTAS). Under this scheme, the Commission operates the electricity undertakings but ownership remains with the shires which are required to raise the funds needed for capital works, including generating plant, distribution extensions and upgrading.

At 30 June 1987, the Commission's generating capacity from its interconnected grid system was 2,102 MW, while the capacity of its supply system in country areas was 170 MW. There were 555,698 customer accounts for electricity throughout the State.

The Commission is also responsible for the design, construction and maintenance of power stations at isolated Aboriginal communities in the Pilbara, Kimberley, Central Aboriginal

Reserve and Eastern Goldfields. At 30 June 1987, there were 31 such village power stations funded by the Commonwealth Government.

Gas reticulation

The Commission is the main supplier of gas in Western Australia. It operates an extensive North- West Shelf natural gas reticulation system in the Perth metropolitan area as well as smaller country reticulation systems at Geraldton to the north and Pinjarra and Bunbury in the south-west. The Commission also reticulates tempered liquefied petroleum (TLP) gas through a local system at Albany on the south coast.

At 30 June 1987, there were 193,700 customer accounts for natural gas and 2,360 customer accounts for TLP gas.

South Australia

Electricity Trust of South Australia

In 1946 the assets of the Adelaide Electric Supply Co. Ltd were transferred to a newly-formed public authority, the Electricity Trust of South Australia, which became responsible for unification and coordination of the major portion of the State's electricity supply, taking over the powers previously vested in the South Australian Electricity Commission. In addition to the powers specified in the *Adelaide Electric Supply Company's Acts 1897–1931*, the Trust may supply electricity direct to consumers within a district or municipality with the approval of the local authority; arrange, by agreement with other organisations which generate or supply electricity, to interconnect the mains of the Trust with those of other organisations; and give or receive supplies of electricity in bulk.

Capacity and production

At 30 June 1988, the Electricity Trust's installed capacity was 2,680 MW. Its major power stations are Port Augusta Northern Power Station (500 MW), Torrens Island (1,280 MW) and Port Augusta Playford 'B' (240 MW). Of the older stations, Playford 'A' (90 MW) has been retired and most of Osborne (240 MW) has been placed on cold storage. The Trust also operates gas turbine stations at Dry Creek (156 MW), Mintaro (90 MW) and Snuggery (75 MW) and a small diesel station at Port Lincoln (9 MW).

The Trust supplies approximately 630,000 customers, accounting for over 90 per cent of all electricity consumers in the State.

The two main fuels used by the Trust are coal from Leigh Creek for the Port Augusta power stations and natural gas from the Cooper Basin for the Torrens Island, Dry Creek and Mintaro stations.

Future developments

To meet future demands, a third 250 MW unit at the Northern Power Station, also fuelled by Leigh Creek coal, is scheduled for commissioning in 1996.

A 500 MW capacity interconnection with the Victorian–New South Wales systems, being constructed, is scheduled for commissioning in 1990.

Gas reticulation

The South Australian Gas Company (SAGASCO) was a privately owned company incorporated by an Act of Parliament in 1861. The first gas was produced at Brompton in 1863.

When natural gas became available from the Cooper Basin in the late 1960s, SAGASCO, in 1966, contracted a supply of this indigenous fuel. Deliveries commenced in 1969 and, with the complete conversion of the metropolitan area to natural gas in January 1971, coal carbonising and carburetted water gas plants were shut down.

Under the 1966 contract, SAGASCO paid the Cooper Basin producers who, in turn, paid the transportation charge of the Natural Gas Pipelines Authority. In 1974, major changes to contracts and other arrangements were effected. The Pipelines Authority—renamed the

Pipelines Authority of South Australia (PASA)—became responsible for purchasing gas at the Cooper Basin and on-selling to customers. The 1966 contract was shortened to expire on 1 January 1988, from which date a new supply contract with PASA took effect.

Natural gas is reticulated through most of the Adelaide metropolitan area, Angaston and Port Pirie. Liquefied petroleum gas is distributed by reticulation at Mount Gambier, Roxby Downs and Whyalla, and is available elsewhere as bottled gas.

The conversion of the metropolitan distribution system to natural gas brought marked changes in the company's operations. The company is now concerned largely with the distribution and marketing of gas, rather than manufacturing. Great emphasis is placed on marketing gas to industry, where, as a cheap, non-polluting fuel, it is able to compete successfully with other fuels. On 1 June 1988 the South Australian Gas Company merged with the South Australian Oil and Gas Corporation to form SAGASCO Holdings Ltd. Two new subsidiaries were formed: South Australian Gas Company Ltd (to undertake the operations of the old utility) and SAGASCO Resources Ltd. The sales and distribution of LPG is now handled by a new company, SAGASCO LPG Pty Ltd.

Tasmania

A considerable part of the water catchment in Tasmania is at high altitude. The establishment of numerous dams has created substantial artificial storage which has enabled the State to produce electricity at a lower cost than elsewhere in Australia and in most other countries. Another factor contributing to the low cost is that rainfall is distributed fairly evenly throughout the year with comparatively small yearly variations. Abundant and comparatively cheap supplies of electricity play an important role in attracting industry to Tasmania.

Hydro-Electric Commission

The Commission was created in 1930, taking over the activities of the Hydro-Electric Department and the existing small hydro-electric installations. Development initially concentrated on hydro-electric generation feeding into a state-wide power grid (King Island from 1951 and Flinders Island from 1968 are outside the grid and are supplied by diesel generators). During 1974, the construction of a substantial oil fired thermal station with a capacity of 240 MW was completed to supplement the continuing hydro development program.

Installed capacity

At 30 June 1988 the generating system had an installed capacity of 2,314.5 MW. The most recent completion, the Pieman River Power Development (231 MW), was officially opened on 1 May 1987.

Installation of a third 144 MW generator at the Gordon Power Station was completed in April 1988 and brought the capacity at that site to 432 MW.

Work began in 1982–83 on Stage 2 of the Gordon River Power Development but was halted when the Federal Government refused consent for the project to proceed. The Hydro-Electric Commission then began work (in August–September 1983) on two smaller hydro power schemes in western Tasmania. These are the King River Power Development, scheduled for completion in mid 1991, and the Anthony Power Development, expected to be commissioned some 18 months later. They will add about 227 MW to the installed capacity of the system.

Gas reticulation

Gas is only a minor energy source in Tasmania. Town gas is manufactured and reticulated only in Launceston. Bottled LPG is a minor domestic, commercial and motor fuel in the State.

Northern Territory

The Power and Water Authority is a Statutory Authority, created on 1 July 1987, with responsibility for the sale of natural gas, generation, distribution, transmission and sale of electricity, and water and sewerage services.

In Darwin, the major electricity source is the gas-fired Channel Island Power Station completed in October 1987 with a capacity of 186 MW. In Alice Springs, power is generated at the Ron Goodwin Power Station which operates on natural gas. In Katherine, electricity is generated at the gas fired Katherine Power Station, completed in September 1987. Natural gas is also used as a fuel for electricity generation at the Tennant Creek Power Station.

A natural gas pipeline from the Amadeus Basin in Central Australia to Darwin was completed in December 1986, enabling electricity generation in Darwin, Katherine and Tennant Creek to use an indigenous fuel to replace expensive, imported fuel. The Alice Springs Power Station is fuelled by natural gas from Palm Valley via a separate pipeline.

Many small communities in the Territory generate their own power using diesel-fired generating sets and responsibility for these operations has been transferred to the Power and Water Authority.

Australian Capital Territory

Electricity distribution

Electricity is distributed within the Territory by ACT Electricity and Water. This authority was established on 1 July 1988 taking over from the previous ACT Electricity Authority. The Territory's electricity supply requirements are met by a reservation of 670 GWh from the Snowy Mountains Hydro-Electric Authority with the balance being provided by the Electricity Commission of New South Wales. During the year 1987–88 the total bulk electricity purchased was 2,026 GWh and the system maximum demand was 534 MW. The authority supplied 101,246 customers at 30 June 1988.

Gas reticulation

Reticulated gas first became available in the Australian Capital Territory in January 1982. Natural gas from the Moomba fields in South Australia is piped to Canberra via a 60 km spur which branches from the main Moomba–Sydney pipeline at Dalton. AGL Canberra Ltd has invested capital of $55 million to set up the infrastructure necessary to service and support a major utility and, to date, has laid over 1,800 kilometres of gas mains, bringing reticulated natural gas within reach of an estimated 62,000 dwellings in 60 suburbs.

During 1987–88, AGL Canberra Ltd reticulated 2,422 TJ of natural gas to 700 commercial and industrial establishments and about 17,500 homes. Over the next five years the company expects to invest a further $50 million and, in the long term, over 2,500 kilometres of gas mains will service over 50,000 customers in the Territory.

National Survey of Household Energy Usage

About 27 per cent of all reticulated electricity and 13 per cent of reticulated gas is consumed by households. To facilitate planning by energy authorities to meet this demand, the Australian Bureau of Statistics conducted a national survey of energy usage by households in private dwellings. Over 19,000 households were progressively interviewed over the twelve months commencing 17 June 1985 and the information sought included:

- what facilities and major appliances were held by the household at the time of the interview and what types of energy, reticulated and non-reticulated, were used by that household;
- the quantity and cost of reticulated electricity and gas consumed by the household over the twelve months prior to interview;

- weekly usage patterns for selected major appliances and related reticulated energy consumption, these were recorded in a special diary.

The publication *National Energy Survey: Household Appliances, Facilities and Insulation, Australia, 1985–86* (8212.0) was released on 3 June 1987. It contains estimates covering selected appliances and facilities held by households and types of energy used, cross classified by household and dwelling characteristics. The following table summarises the survey's findings on the various energy sources more commonly utilised by households.

TYPE OF ENERGY USED BY STATE AND STATE CAPITAL CITIES, 1985–86
('000 of single households in private dwellings)

	NSW		*Vic.*		*Qld*		*SA*	
Type of energy used	*Sydney*	*Total*	*Melb.*	*Total*	*Brisb.*	*Total*	*Adel.*	*Total*
Households using electricity	1,119.5	1,735.1	939.3	1,298.4	381.4	806.9	351.9	474.9
Households not using electricity	*	9.4	*	*1.8	*	*4.2	*	*
Households using gas	367.1	538.2	780.1	971.9	100.2	183.8	221.5	253.5
Reticulated (mains) gas	327.5	398.3	753.3	879.9	77.3	86.2	214.6	223.7
Bottled gas	35.8	126.2	18.8	81.2	22.8	92.2	4.9	26.0
Not asked type of gas	*3.8	13.7	8.0	10.8	*	5.4	*2.0	3.8
Households using wood/solid fuel 123.6	337.3	132.5	288.9	24.4	96.4	69.8	128.0	
Households using oil	63.5	126.0	43.3	82.6	*4.1	15.8	34.0	54.9
Households using kerosene	63.3	114.9	18.7	29.7	43.7	92.7	19.2	27.8
Households using solar energy	35.2	67.2	7.1	17.9	13.0	43.0	12.7	18.2
Main energy combinations—								
Electricity only	555.8	762.7	99.9	151.4	222.6	453.1	58.3	84.2
Electricity and gas only	267.9	312.3	637.2	732.2	61.6	68.0	166.0	172.5
Electricity and wood only	74.4	213.4	27.8	102.8	14.7	60.0	33.0	70.3
Electricity and oil only	47.2	89.4	20.6	37.8	*2.8	10.6	25.5	38.9
Electricity and solar only	17.5	24.2	*	*2.8	7.3	24.1	*1.7	*2.5
Electricity, gas and wood only	24.9	38.8	82.5	106.5	*4.2	5.4	25.4	26.3
Total	*987.6*	*1,440.8*	*868.3*	*1,133.4*	*313.3*	*621.2*	*309.9*	*394.6*
All other combinations	*131.9*	*303.6*	*71.0*	*166.8*	*68.4*	*189.9*	*42.2*	*80.5*
Total	**1,119.5**	**1,744.5**	**939.3**	**1,300.2**	**381.7**	**811.1**	**352.1**	**475.1**

	WA		*Tas.*				*Australia*	
Type of energy used	*Perth*	*Total*	*Hobart*	*Total*	*NT*	*ACT*	*State capitals*	*Total*
Households using electricity	347.4	460.5	60.3	144.8	26.7	78.8	3,199.7	5,026.2
Households not using electricity	*	*2.1	*	*	*	*	*	17.9
Households using gas	173.3	250.4	3.3	13.0	4.1	10.3	1,645.4	2,225.2
Reticulated (mains) gas	153.2	159.4	*	1.8	*	5.6	1,525.8	1,754.8
Bottled gas	18.2	83.4	3.3	10.7	4.1	4.7	103.9	428.5
Not asked type of gas	*1.8	7.7	*	*0.5	*	*	15.7	41.8
Households using wood/solid fuel	99.6	162.5	30.6	89.6	*	19.2	480.5	1,122.4
Households using oil	43.3	54.7	12.4	23.0	*	17.4	200.6	374.9
Households using kerosene	47.4	61.0	*1.1	3.8	*	*1.7	193.4	332.3
Households using solar energy	92.3	114.2	*0.8	*1.4	10.6	5.6	161.3	278.1
Main energy combinations—								
Electricity only	54.9	65.5	17.9	31.3	13.5	35.2	1,009.4	1,596.9
Electricity and gas only	78.6	80.3	*	*	*	*3.4	1,211.3	1,368.9
Electricity and wood only	25.2	35.6	25.5	75.0	*	12.7	200.6	569.7
Electricity and oil only	11.0	12.1	8.8	16.2	*	11.7	115.9	216.6
Electricity and solar only	15.8	18.5	*	*	8.7	*1.6	42.8	82.5
Electricity, gas and wood only	24.3	27.0	*	*1.3	*	*	161.4	206.1
Total	*209.8*	*239.0*	*52.3*	*124.0*	*22.3*	*65.3*	*2,741.3*	*4,040.7*
All other combinations	*137.6*	*223.6*	*7.9*	*21.1*	*4.5*	*13.5*	*458.9*	*1,003.4*
Total	**347.4**	**462.6**	**60.3**	**145.1**	**26.7**	**78.8**	**3,200.2**	**5,044.1**

NOTE: Estimates preceded by the symbol (*) have a relative standard error of between 25 and 40 per cent. Estimates replaced by the symbol (*) have a standard error greater than 40 per cent.

The publication *National Energy Survey: Annual Consumption of Reticulated Energy by Households, Australia, 1985–86* (8213.0) was released on 22 February 1988. It contains estimates on both the quantity of reticulated electricity and gas consumed and how much it cost over a twelve month period. Cross classifications include household size and income, dwelling characteristics and State/Territory. The following table summarises, for households, the survey's findings on the annual consumption and cost of reticulated energy.

RETICULATED ENERGY: AVERAGE ANNUAL CONSUMPTION AND EXPENDITURE BY HOUSEHOLD COMPOSITION BY STATE/TERRITORY AND CAPITAL CITIES, 1985–86

	Household composition								
	One adult and number of children			*Two adults and number of children*			*Three or more adults and number of children*		
	None	*1 or 2*	*3 or more*	*None*	*1 or 2*	*3 or more*	*None*	*1 or 2*	*3 or more*
SINGLE HOUSEHOLDS IN PRIVATE DWELLINGS ('000)									
New South Wales	312.8	37.1	*4.8	506.3	281.2	104.5	273.8	149.0	21.4
Sydney	223.7	29.0	*	315.1	183.1	61.3	189.4	92.7	12.6
Victoria	245.9	20.7	*6.5	350.9	223.0	69.8	217.6	127.2	20.2
Melbourne	179.9	12.8	*4.4	245.4	164.7	43.0	172.4	92.9	14.6
Queensland	149.8	13.8	*4.5	221.2	131.9	54.6	113.9	74.6	10.4
Brisbane	77.8	*5.8	*	101.2	67.8	21.0	64.1	36.7	*2.9
South Australia	83.4	8.6	*3.1	153.5	78.2	25.0	74.2	36.2	*2.7
Adelaide	62.4	6.2	*2.0	113.8	58.9	16.4	58.8	27.6	*
Western Australia	83.5	10.0	*	132.9	84.7	29.1	67.7	36.1	*3.3
Perth	64.6	9.1	*	102.7	63.6	21.0	53.7	26.9	*
Tasmania	27.7	3.1	*	40.9	29.2	9.7	17.0	11.8	2.6
Hobart *(a)*	12.8	2.0	*	17.5	12.6	3.0	7.0	3.7	*1.0
Northern Territory *(a)*	*3.2	*	*	6.3	9.1	*	*2.4	*2.4	*
Australian Capital Territory	12.8	*1.9	*	19.7	16.3	5.7	13.0	8.6	*
Australia	**919.0**	**96.1**	**20.4**	**431.8**	**853.6**	**300.0**	**779.7**	**445.7**	**61.4**
AVERAGE ANNUAL CONSUMPTION (MJ)									
New South Wales	15,900	26,900	*34,200	25,100	34,200	37,400	37,100	39,800	51,500
Sydney	15,700	27,000	*	25,700	35,400	40,000	39,700	41,400	53,000
Victoria	29,900	50,600	*70,700	48,300	71,200	80,200	74,500	81,800	78,000
Melbourne	31,100	58,400	*81,000	54,100	79,000	100,300	81,700	91,500	86,900
Queensland	13,200	19,500	*23,700	19,900	27,100	29,400	27,600	30,200	32,100
Brisbane	13,900	*21,000	*	20,800	27,300	32,900	29,300	33,000	*35,200
South Australia	20,400	31,000	*39,700	30,400	41,400	43,100	42,100	47,700	*55,800
Adelaide	21,700	35,900	*45,200	32,100	44,600	47,300	45,200	50,100	*
Western Australia	13,900	22,100	*	20,300	26,800	30,500	28,300	31,300	*28,400
Perth	14,700	23,200	*	20,500	28,300	33,300	30,100	33,800	*
Tasmania	22,900	31,600	*	31,200	37,500	46,600	40,500	43,000	41,300
Hobart *(a)*	24,400	32,400	*	31,100	37,700	50,800	43,100	42,400	*43,700
Northern Territory *(a)*	*16,300	*	*	24,600	32,400	*	*27,400	*41,400	*
Australian Capital Territory	29,400	*41,800	*	36,300	43,800	63,800	43,100	45,500	*
Australia	**19,800**	**31,200**	**44,300**	**30,500**	**43,000**	**46,700**	**46,000**	**50,300**	**55,300**
AVERAGE ANNUAL EXPENDITURE ($)									
New South Wales	300	449	*598	451	588	642	628	688	829
Sydney	285	438	*	442	591	646	648	696	812
Victoria	397	544	*772	572	756	846	816	909	870
Melbourne	404	563	*820	604	795	948	861	950	895
Queensland	337	469	*502	470	607	652	616	668	705
Brisbane	345	*472	*	471	605	704	628	705	*727
South Australia	348	481	*578	508	659	728	686	784	*839
Adelaide	351	512	*598	507	671	737	705	785	*
Western Australia	342	448	*	467	585	680	628	688	*666
Perth	353	459	*	468	618	712	652	741	*
Tasmania	365	479	*	491	586	695	638	690	656
Hobart *(a)*	386	485	*	493	585	759	666	684	*682
Northern Territory *(a)*	*537	*	*	677	841	*	*700	*1,072	*
Australian Capital Territory	464	*602	*	538	680	894	684	732	*
Australia	**345**	**479**	**624**	**494**	**645**	**710**	**685**	**758**	**808**

(a) As reticulated gas was not available at the time of the survey, these averages are for reticulated electricity only.

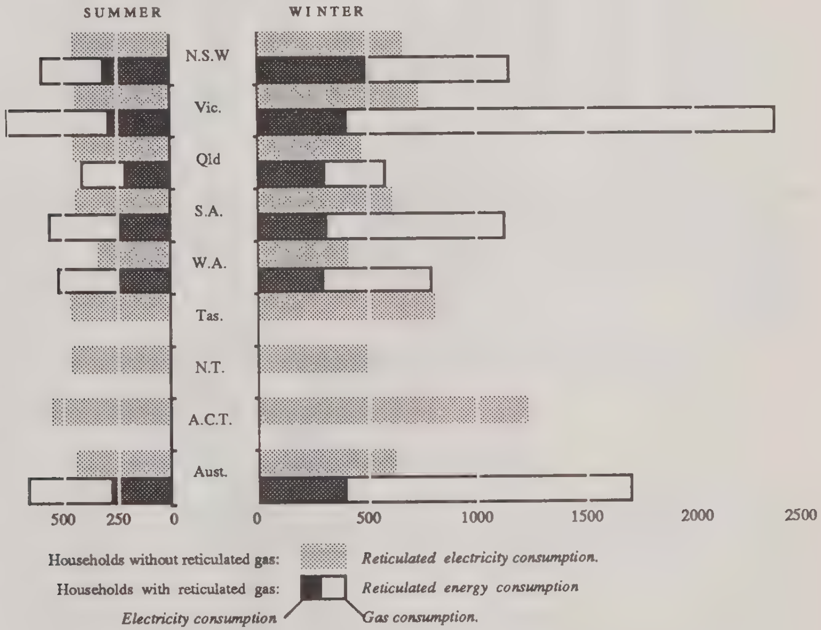
NOTE: Estimates preceded by the symbol (*) have a relative standard error of between 25 and 40 per cent. Estimates replaced by the symbol (*) have a standard error greater than 40 per cent.

The publication *National Energy Survey: Weekly Reticulated Energy and Appliance Usage Patterns by Season, Households, Australia, 1985–86* (8218.0) was released on 19 October 1988. It presents a range of information on seasonal reticulated energy consumption and the weekly usage patterns for selected energy using appliances by households.

This information is based on a seven day diary of appliance usage kept by each household in the survey. As each household was requested to keep the diary record for just one week and, as the weeks for which the surveyed households provided diary data were spread over the period June 1985 to June 1986, it was possible to build up a pattern of appliance usage for the four seasons.

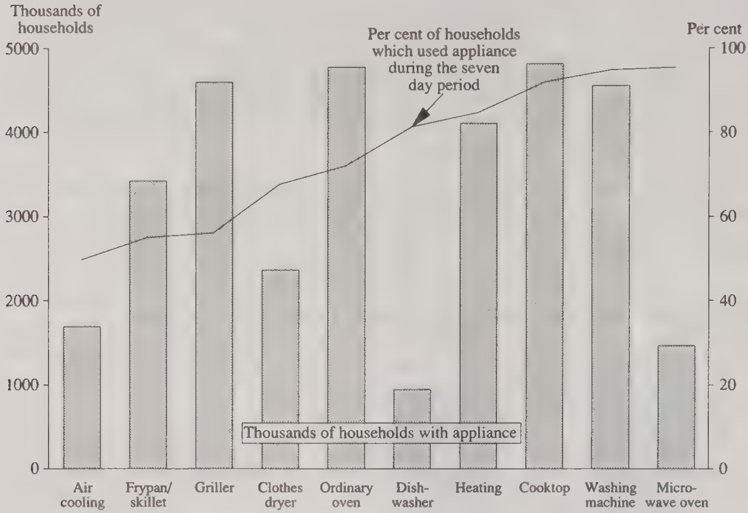
The following graph compares the average weekly consumption of reticulated energy for households with both reticulated gas and electricity with the consumption of reticulated electricity by households without reticulated gas, for the seasons of greatest contrast, i.e. summer and winter.

RETICULATED ENERGY: AVERAGE WEEKLY CONSUMPTION, 1985–86.
(Megajoules)



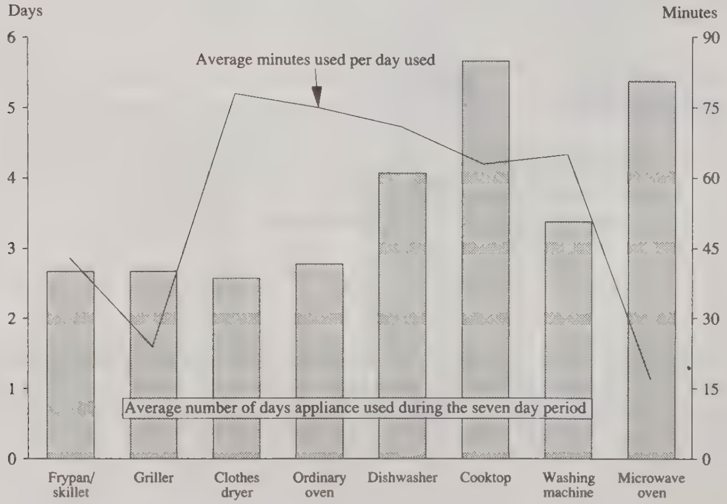
The next graph shows the number of households (grey columns) which held an appliance at the time of interview and the percentage of those households (dark line) which had used the appliance during the seven day period. Because of the highly seasonal nature of their usage, summer usage figures were used for air cooling/conditioning and winter usage figures for reticulated energy heating and clothes dryers.

HOLDINGS OF SELECTED APPLIANCES AND WHETHER USED DURING THE SEVEN DAY PERIOD, 1985-86



The last diagram shows the average number of days an appliance was used during the seven day period (grey columns) and the average number of minutes the appliance was used per day used (dark line). Appliances fell into two basic groupings, those that were used on less than three days a week, for example frypans and grillers which tend to only be used occasionally, and those used more regularly such as cooktops and washing machines.

SELECTED APPLIANCES: USAGE PATTERN OVER THE SEVEN DAY PERIOD, 1985-86



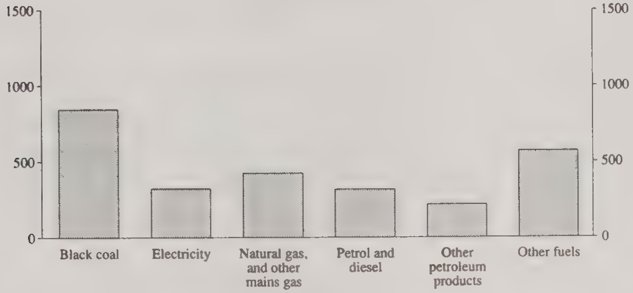
National Survey of Energy Demand by Industry

To facilitate planning and policy formulation by energy authorities the Australian Bureau of Statistics conducted a national survey of energy demand by industry in Australia. The publication *National Energy Survey: Energy Demand in Industry, Australia, 1986–87* (8217.0) should be released in April 1989. It presents information on the quantity of electricity and selected fuels used for energy in industry (excluding agriculture) in Australia, cross-classified by State, type of fuel and purpose of consumption.

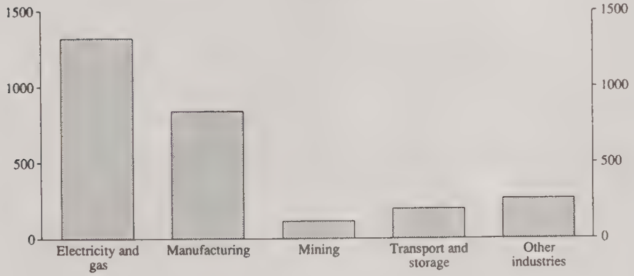
The total 1986–87 energy consumption for Australian industry (excluding agriculture) was estimated to be 2,791 petajoules (PJ). The following graphs show total energy consumption by industry for Australia by fuel source, industry and State respectively.

ENERGY DEMAND IN INDUSTRY(a), 1986-87
('000) Kilojoules

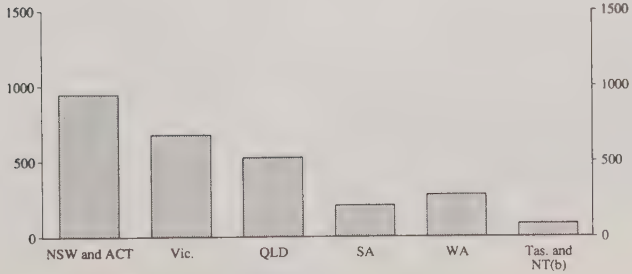
BY SOURCE OF ENERGY



BY SECTOR



BY STATE



(a) Excluding agriculture. (b) Not published separately.

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National Energy Survey: Household Appliances, Facilities and Insulation, Australia, 1985–86 (8212.0)

National Energy Survey: Annual Consumption of Reticulated Energy by Households, Australia, 1985–86 *(8213.0)*

National Energy Survey: Weekly Reticulated Energy and Appliance Usage Patterns by Season, Households, Australia, 1985–86 (8218.0)

National Energy Survey of Households, 1985–86: Sample File on Magnetic Tape (8215.0)

National Energy Survey: Energy Demand in Industry, Australia, 1986–87 (8217.0)

New South Wales Energy Survey: Part 1—Household Appliances, Facilities, Insulation and Appliance Acquisition, October 1984 (8211.1)

New South Wales Energy Survey, October 1984: Part 2—Household Energy Consumption (8212.1)

New South Wales Energy Survey, October 1984: Sample File on Magnetic Tape (8215.1)

Domestic Firewood and Coal Usage, Tasmania, 1985 (8204.6)

Other Publications

Other organisations which produce statistics in this field include the Department of Primary Industries and Energy, the Joint Coal Board, the Australian Institute of Petroleum, the Electricity Supply Association of Australia and the Bureau of Mineral Resources, Geology and Geophysics. State government departments and instrumentalities also are important sources of energy data, particularly at the regional level, while a number of private corporations and other entities operating within the energy field also publish or make available a significant amount of energy information.

18

MANUFACTURING AND RETAIL TRADE

MANUFACTURING

An historical summary of the development of the Manufacturing industry in Australia since 1788 was contained in *Year Book* No. 71.

Government Authorities

Industries Assistance Commission—IAC

The IAC is a statutory authority which came into existence on 1 January 1974 as a result of the passing of the *Industries Assistance Commission Act 1973* by the Commonwealth Parliament. The Commission replaced the Tariff Board which, since 1921, had been responsible for advising the government on assistance for industries mainly in the manufacturing sector of the economy.

The Commission is an advisory authority. The government is required to seek the Commission's advice before it makes changes in the assistance afforded industries, but the government is not obliged to accept the Commission's advice.

In August 1983, the Government initiated a review of the functions and operations of the Commission. Decisions taken on the recommendations of that review, and reflected in the *Industries Assistance Commission Amendment Act 1984*, were designed to improve the Commission's operations and procedures so that it could more effectively assist the government to meet its industry policy objectives.

The Commission's basic functions remain unchanged. These are to hold inquiries, conduct public hearings and to make reports to the government on assistance, and matters associated with assistance, to industries in the rural, mining, manufacturing and services sectors of the economy. Inquiries are initiated by references from the Minister administering the *Industries Assistance Commission Act 1973*. The Commission is also required to report annually to the government on its operations and on the general structure of industry assistance within Australia and its effects on the economy.

The Commission operates under general policy guidelines which are cast in terms of encouraging the growth of efficient and internationally competitive industries, facilitating structural adjustment and recognising the interests of other industries and consumers.

The Commission is required to give wide public notice that it is conducting an inquiry. Typically, the Commission prepares a draft report on the basis of consultation with interested parties, written submissions and the Commission's own investigatory work. Draft reports are published and public hearings are held to give interested parties an opportunity to examine and comment before Commission reports are finally settled. Public hearings are conducted in an informal manner and may be held in Canberra or other cities throughout Australia.

It is the government's intention that, in most cases, final Commission reports will be published prior to a government decision being taken. When released for publication, these Commission reports are sold by Commonwealth Government Bookshops.

If after receiving a report from the Commission, the government decides that assistance afforded a particular industry should be changed, it introduces a proposal to this effect in Parliament. Thus, the final responsibility for altering assistance given to particular industries within Australia rests with Parliament.

Bureau of Industry Economics

The Australian Government established the Bureau of Industry Economics in 1977 as a major centre for research into the manufacturing and commerce sectors. In recent years this role has been expanded to include science and technology and building issues. Formally attached to the Department of Industry, Technology and Commerce, the Bureau has professional independence in the conduct and reporting of its research.

The major objectives of the Bureau are to:

- conduct research, including the evaluation of existing programs, needed to assist the government in the formulation of industrial policy;
- improve public information on, and understanding of, economic developments and policy issues in the manufacturing and commerce sectors;
- assist other bodies dealing with industry and technology issues by making submissions on the results of its research;

The recent expansion in the Bureau's responsibilities means that its research now encompasses the full range of factors affecting the performance of the industry and commerce sectors from infrastructural constraints and research and development, through to the final marketing and distribution of products.

In order to ensure the continuing relevance of its research, the Bureau seeks suggestions from interested parties in the private and public sectors on the most pressing economic issues requiring analysis. In formulating the final research program, the Bureau has regard to the priorities of the Minister and Department, and the view of its own Council of Advice.

The members of the Council are drawn from a wide range of backgrounds, including the universities, industries and the trade union movement. In this way the Council of Advice provides a major link between the Bureau and the community. The Council assists with the development of the work of the Bureau and the effective dissemination of the results of the Bureau's work.

In addition to its research work the Bureau provides specialist economic advice to the Department of Industry, Technology and Commerce on matters of immediate importance. The Bureau is also responsible for providing specialist macroeconomic and statistical advice to the Minister and the Department.

The Government has identified small business as an area of major importance, and has established a small business research unit within the Bureau of Industry Economics to investigate issues of concern to that sector.

The need to raise the community's awareness of the economic issues affecting Australian industry has been identified by the Government as a matter of importance. The Bureau is contributing to the community's knowledge of these issues both by means of its publications and by convening conferences such as the Manufacturing Industry Outlook Conference.

The Bureau has a staff of approximately 60 officers with backgrounds in business, government and university teaching and research.

Current research projects include:

- technology transfer;
- investment;
- globalisation (international industrial interdependence);
- global distribution of Australian software;
- structure and performance of the cement industry;
- technical change and economies of scale;
- trade in services;
- closer economic relations with New Zealand;
- evaluation of government programs.

On-going research areas include:

- small business;
- corporate taxation;
- economic conditions.

The results of the Bureau's research are published in:

- working papers—technical issues or preliminary results;
- information bulletins—statistics and other information;
- research reports—comprehensive results of major projects.

Standardisation

The Commonwealth Scientific and Industrial Research Organization—CSIRO

CSIRO is obliged by two Acts of Parliament to be associated with national standards. The functions of CSIRO as laid down by these Acts involve establishing, developing and maintaining standards of measurement of physical quantities and promotion of the use of these standards.

CSIRO first undertook this role in 1938 after government acceptance of a recommendation by a Secondary Industries Testing and Research Committee that these functions were essential for the successful development of manufacturing industry in Australia. Since that time, standards and calibrations have been established for a very wide range of physical quantities, extending considerably beyond the minimum required by law. From 1978, CSIRO has been responsible for first level calibrations in the defence area.

In certain specialist areas, CSIRO has authorised other bodies to carry out functions related to standards. CSIRO has authorised the Australian Nuclear Science and Technology Organisation (Department of Industry, Technology and Commerce) and the Australian Radiation Laboratory (Department of Community Services and Health) to maintain standards for quantities relating to ionising radiations, such as radioactivity, exposure, and absorbed dose. It has also authorised the Australian Surveying and Land Information Group (Department of Administrative Services) to maintain working standards and coordinated universal time and the Australian Telecommunications Commission (Department of Transport and Communications) to maintain working standards of frequency.

At the international level, a treaty now widely known as the Metric Treaty has been signed by 47 member nations, including Australia. The International Bureau of Weights and Measures (BIPM) coordinates activities under the Treaty by providing a mechanism for making international agreements in scientific metrology and for coordinating research on basic scientific problems in measurement. CSIRO has representatives on five of the BIPM's consultative committees, while the Australian Radiation Laboratory and the Australian Nuclear Science and Technology Organisation (as CSIRO agents) are represented on another consultative committee. Statements recognising the equivalence of many of the Australian primary standards with those of the United States, the United Kingdom and Canada have been exchanged.

The Standards Association of Australia

The Standards Association of Australia is the organisation responsible for the preparation, on a national basis, of Australian standards for materials and products and standard codes of practice.

Formed as the Australian Commonwealth Engineering Standards Association in 1922, it was reconstituted as the Standards Association of Australia in 1929, and was incorporated by Royal Charter in 1950. It is an independent body, having the full recognition and support of the Commonwealth and State governments and of industry. Approximately one-third of its funds are provided by Commonwealth Government grant, the remainder coming primarily from membership subscriptions and from the sale of publications. Organisations, companies, and individuals are eligible for subscribing membership.

The Association is controlled by a council comprising representatives from Commonwealth and State governments and their departments, from associations of manufacturing and commercial interests, and from professional institutions. Standards are prepared by committees composed of expert representatives from the interests associated with the subject under consideration. This assistance is on a voluntary basis.

Preparation of a standard is undertaken in response to a request from any responsible source, subject to verification that the standard will meet a genuine need. Standards may relate to one or more of several aspects of industrial practice such as terminology, test methods, dimensions, specifications of performance and quality of products, and safety or design codes. In general, standards derive authority from voluntary adoption based on their intrinsic merit, but in many cases where safety of life or property or consumer protection is involved, they may have compulsory application through statutory reference.

The Association is the owner of a registered certification trademark covering conformity of products to standards. Manufacturers of products covered by Australian standards may obtain a licence to use the StandardsMark, under conditions established by the Association. It also operates a Supplier Assessment Scheme which attests to the adequacy of manufacturers quality systems to national and international standards.

The Association has international affiliations and is a member, representing Australia, of the International Organization for Standardization (ISO) and of the International Electrotechnical Commission (IEC). Close links are maintained with overseas standards organisations, and the Association acts as Australian agent for the procurement of ISO and IEC publications and the standards of other countries.

The Association has two specialised information centres, one in Sydney and one in Melbourne, containing the national standards of all countries with standards organisations. These centres provide a necessary information service to those concerned with standards development and for researchers from all sectors of the community.

The headquarters of the Association is in Sydney, and there is a major office in Melbourne. Offices are also located in other capital cities and Newcastle.

The National Standards Commission

The Commission was established in 1948 and is presently located at North Ryde, Sydney. The Commission operates under the National Measurement Act and is responsible for the coordination of the Australian National Measurement System with specific responsibility for legal metrology and the completion of metrication. The Commission also examines and approves the patterns of measuring instruments used for trade, in order to control design and quality.

The Commission has close contact with all State and Territorial Weights and Measures Authorities and provides assistance in the accreditation and training of weights and measures inspectors. The Commission is currently chairing a working party developing Uniform Trade Measurement Legislation for Australia.

Close liaison is also maintained with the manufacturing industry, retailers, consumers and other users to ensure a balance between design, quality, cost and consumer protection.

The Commission has regular contacts overseas, provides the Australian member accredited to the International Organisation of Legal Metrology and provides training courses for countries in the Asia–Pacific region. The Commission is directed by a board of seven part-time Commissioners.

The National Association of Testing Authorities—NATA

NATA organises testing facilities throughout Australia to serve private and governmental needs. Membership is open to authorities whose testing laboratories conform to the standards of staffing and operations defined by the Association. Testing authorities may register their laboratories voluntarily. The Association assesses the competence of the laboratories and ensures that their standards of competence are maintained. Certificates of test issued by registered laboratories may be endorsed in the name of the Association. NATA-endorsed test certificates are generally accepted by governmental, industrial and commercial interests.

Laboratories are registered for performance of specific tests in the fields of acoustic and vibration measurement, biological testing, chemical testing, electrical testing, heat and temperature measurement, mechanical testing, medical testing, metrology, non-destructive testing and optics and radiometry.

The Industrial Design Council of Australia—IDCA

IDCA is a non-profit making design information body, offering assistance to manufacturers developing and launching new products in Australia.

The Council is representative of industry and commerce, together with designers and educationalists. In 1987–88 about 9 per cent of its funds will come from State government grants and the balance will be from fees for services to industry (75 per cent) and Federal Government contracts (6 per cent).

The Council's services include the Product Assessment Scheme (PASS scheme), technical and market feasibility evaluation of new products, design counselling, product development management and training programs for manufacturing management (Star Product Programs). The Council also administers the Australian Design Awards program for high quality products of Australian design and manufacture.

The Council has a membership scheme for information exchange and specialist referral services that include senior level manufacturers' designers, marketing and advertising executives, material suppliers and design students.

The Council's programs and activities are designed to promote easy access to, and collaboration between, Australia's service and manufacturing communities to help achieve international competitiveness through improvement of price and non-price factors in locally developed products. The Council has a professional staff comprising engineers, ergonomists and marketing consultants located in offices in Perth, Adelaide, Sydney and Brisbane. Its national office is located in Melbourne.

The Australian Standard Commodity Classification—ASCC

ASCC has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0 and 1208.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items.

In a number of cases, however, due to the differences between production, import and export items, comparability is only achieved at fairly broad aggregate levels. In the ASCC, commodities are grouped under industries (as defined in the Australian Standard Industrial Classification) in which they are typically produced.

The latest edition published is in respect of the year 1984–85. The classification will continue to be developed over the coming years to improve the alignment between production, imports and exports and to incorporate commodities originating in the construction and service industries.

The next edition of the ASCC will relate to the year 1989–90, i.e. the year for which the next full Census of Manufacturing Establishments is planned. In this edition the standard, production and trade commodities will have been re-based on the most up-to-date international standards, i.e. the Harmonized Commodity Description and Coding System (HCDCS) and the Standard International Trade Classification (SITC), Revision 3.

The Australian Standard Industrial Classification—ASIC

ASIC (1201.0 and 1202.0) was developed by the ABS as part of its program for the integration of economic statistics. Since its introduction in the processing of the 1969 Integrated Economic Censuses, ASIC has gained a wide acceptance by users of statistics outside the ABS and has been applied in ABS collections and compilations where data are classified by industry.

ASIC has been devised for the purpose of classifying statistical units by industry. It has been designed primarily as a system for the classification of establishments (e.g. individual mines, factories, shops, etc.) although it may also be used for classifying other economic units such as enterprises.

The fundamental concept of this classification system is that an industry (i.e. an individual class, group, etc.) in ASIC is composed of establishments that have been classified to it. Each industry class is defined by a set of *primary activities* which have been assigned to it. These industry definitions are revised only at relatively infrequent intervals to minimise the disruption to time series data assembled on an ASIC basis.

To date, ASIC has been revised twice. ASIC editions published hitherto are: 1969 (original), 1978 (first revision) and 1983 (second revision)—the latter (the 1983 edition) is the one currently in use. A review of this edition is proceeding.

Manufacturing Industry Statistics

Manufacturing industry statistics from 1901 to 1967–68

A series of substantially uniform statistics exist from 1901 up until 1967–68 when the framework within which manufacturing statistics were collected was changed. Detailed manufacturing statistics in respect of this period are included in *Year Book* No. 57, pages 721–9, and in earlier issues.

Manufacturing industry statistics from 1968–69

As from the year ended June 1969, the censuses of Manufacturing, Electricity and Gas have been conducted within the framework of the Integrated Economic Censuses which include the censuses of Mining, Retail Trade, Wholesale Trade, Construction and Electricity and Gas industries. As a result, manufacturing industry statistics for 1968–69 and subsequent years are not directly comparable with previous years.

The standardisation of census units in the integration of economic censuses means that the basic census unit (the establishment), in general, covers all the operations carried on under the one ownership at a single physical location. The manufacturing establishment is thus one predominantly engaged in manufacturing, but the data supplied for it cover (with a few exceptions) all activities at the location. The establishment statistics also include data relating to separately located administrative offices and ancillary units serving the establishment and forming part of the business (enterprise) which owns and operates the establishment.

Census units are classified to industry as described in the ABS publication *Australian Standard Industrial Classification* (1201.0 and 1202.0). ASIC defines the industries in the economy for statistical purposes, thus permitting the scope of the different economic censuses to be specified without gaps or overlapping between them. It also sets out standard rules for identifying the statistical units (e.g. establishments) and for coding them to the industries of the classification. This classification is broadly convertible to the International Standard Industrial Classification adopted by the United Nations Statistical Commission. The adoption of ASIC has resulted in changes in scope between the integrated economic censuses introduced in 1968–69 and the individual economic censuses conducted in previous years.

In the 1967–68 Census there were approximately 62,600 manufacturing establishments (excluding electricity and gas establishments) with employment of 1,276,000. Of these, approximately 35,400, with employment of 1,097,000 would have been included in the 1967–68 Census if ASIC had been used.

MANUFACTURING ESTABLISHMENTS: SUMMARY OF OPERATIONS, AUSTRALIA

Census year	*Establishments at 30 June*	*Average employment over year (a)*	*Wages and salaries (b)*	*Turnover*	*Stocks*		*Purchases, transfers in and selected expenses*	*Value added*	*Fixed capital expenditure less disposals*
					Opening	*Closing*			
	No.	No. persons	$m	$m	$m	$m	$m	$m	$m
1968–69	35,939	1,261,277	3,908.1	18,646.5	3,102.5	3,319.6	11,514.9	7,348.8	903.0
1969–70	35,674	1,295,633	4,328.7	20,687.6	3,322.8	3,634.7	12,862.3	8,137.1	1,030.7
1970–71	No manufacturing census was conducted in respect of this year.								
1971–72	36,206	1,301,639	5,250.0	23,620.4	3,920.1	4,182.5	14,374.8	9,508.1	1,297.8
1972–73	36,437	1,297,095	5,820.0	26,352.4	4,187.2	4,306.3	15,963.0	10,508.5	1,244.4
1973–74	37,143	1,338,379	7,176.4	31,246.7	4,299.1	5,268.5	19,329.8	12,886.3	1,215.5
1974–75*(c)*	36,836	1,264,807	8,588.0	35,468.0	5,267.2	6,572.2	21,712.3	15,060.7	1,456.4
1974–75*(d)*	26,973	1,245,237	8,533.5	35,133.7	5,241.0	6,542.7	21,522.3	14,913.1	1,445.9
1975–76	27,507	1,200,440	9,472.4	39,485.3	6,581.1	7,023.3	23,371.7	16,555.8	1,451.7
1976–77	26,780	1,175,831	10,535.8	44,814.3	6,985.1	7,996.8	27,010.0	18,816.1	1,548.0
1977–78*(e)*	25,998	1,145,685	11,151.4	48,210.8	7.880.2	8,510.8	29,087.8	19,753.6	1,871.8
1977–78*(f)*	26,065	1,144,199	11,135.8	48,112.6	7,863.5	8,498.1	28,992.7	19,754.4	1,877.3
1978–79	26,312	1,143,891	11,966.4	55,211.3	8,515.4	9,299.6	33,765.4	22,230.1	2,262.8
1979–80	27,430	1,154,184	13,357.5	65,354.8	9,287.6	11,126.4	41,579.5	25,614.0	2,186.7
1980–81	27,681	1,149,963	14,912.7	73.723.0	11,047.1	12,366.9	46,448.7	28,594.1	2,882.7
1981–82	28,706	1,154,808	17,002.8	81,869.3	12,377.4	13,297.3	51,240.4	31,548.7	4,084.2
1982–83	27,696	1,052,905	17,402.7	82,320.6	13,094.4	13.035.1	51,225.8	31,035.5	3,678.4
1983–84*(g)*	27,472	1,099,818	17,467.4	88,639.3	12,918.1	13,181.5	54,681.4	34,221.3	2,778.4
1984–85	27,611	1,018,448	18,780.3	98,208.7	13,088.8	14,473.8	61,206.6	38,387.1	3,133.7
1985–86	No manufacturing census was conducted in respect of this year.								
1986–87	28,842	1,013.0	21,469.1	116,482.2	15,597.9	16,594.4	71,917.7	45,561.0	n.a.

(a) Includes working proprietors. *(b)* Excludes the drawings of working proprietors. *(c)* These data and that of previous years include the data of all manufacturing establishments. *(d)* These data and those of following years exclude single establishment manufacturing enterprises with fewer than four persons employed. *(e)* These data and those of previous years are classified to the 1969 (preliminary) edition of ASIC. *(f)* These data and those up to and including 1982–83 are classified to the 1978 edition of ASIC. *(g)* These data and those of following years are classified to the 1983 edition of ASIC.

The items of data on the census forms were standardised for all census sectors, which has meant changes in the content of the statistics. For example, the 'value of turnover' is now collected instead of the 'value of output' at the factory, and purchases and selected expenses are collected as well as the value of specified materials, fuels, etc., used. However the underlying concept of 'value added' is similar to the former concept 'value of production', even though its method of derivation is different.

Even though the concept of 'value added' is similar to 'value of production', direct comparison of 1968–69 and previous figures is not possible because of the change in census units already mentioned which has resulted in the 'value added' for the whole establishment being reported, not merely the 'value added' for the manufacturing process. Comparison is also affected, of course, by the change in the scope of the Manufacturing Census due to the adoption of ASIC. In addition, 'value added' as calculated for the Manufacturing Census differs from the concept used in the National Accounts where the concept of 'value added' also excludes some administrative expenses and sundry charges and the change in stocks component is measured by valuing the physical change in stocks at current prices. It is not practicable in the Manufacturing Census to collect data fully in accord with the National Accounts concept of 'value added'.

For a more detailed description of the Integrated Economic Censuses reference should be made to *Year Book* No. 56, Chapter 31.

Since the introduction of the system of Integrated Economic Censuses the comparability of Manufacturing Census data has been affected by three additional changes to collection practices:

(i) Commencing with the 1975–76 Manufacturing Census, only a limited range of data (i.e. employment and wages and salaries) are collected from single establishment manufacturing enterprises with fewer than four persons employed. This procedure significantly reduces both the statistical reporting obligations of small businesses and the collecting and processing costs of the Australian Bureau of Statistics without affecting the reliability of information for the evaluation of trends in the manufacturing sector of the economy (as these small enterprises contribute only marginally to statistical aggregates). In order to provide a link with past and future years, 1974–75 data were processed on both bases.

(ii) Commencing with the 1977–78 Census the classification of census units to industry is based on the 1978 edition of ASIC which replaces the 1969 preliminary edition in use since the 1968–69 Census. In general the impact of the change in industrial classification is minimal at ASIC Division and Subdivision levels.

(iii) From 1983–84, the classification of census units to industry is based on the 1983 edition of ASIC. The only changes to manufacturing resulting from use of the revised version of ASIC relate to establishments mainly engaged in minor repairs to aircraft or railway or tramway rolling stock. Previously, these establishments were excluded from manufacturing but are now included in industry subdivision 32—Transport Equipment.

Multi-establishment Enterprises and Single Establishment Manufacturing Enterprises with Four or More Persons Employed

Main structural aggregates relating to number of establishments, employment, wages and salaries, turnover, purchases, transfers in and selected expenses, stocks, and value added are shown in the following tables. Further detailed statistics are contained in the following ABS statistical publications: *Manufacturing Establishments, Details of Operations by Industry Class, Australia* (8203.0), *Manufacturing Establishments, Summary of Operations by Industry Class, Australia* (8202.0) and *Manufacturing Establishments, Selected Items of Data Classified by Industry and Employment Size, Australia* (8204.0).

Employment

The statistics on the number of persons employed shown in the following table relate to the average whole year employment, including working proprietors and those persons working at separately located administrative offices and ancillary units in the State.

It should be noted that persons employed in each State (and their wages and salaries) relate to those employed at establishments, administrative offices or ancillary units located in that State, even though the administrative offices or ancillary units may have served establishments located in another State.

MANUFACTURING ESTABLISHMENTS—AVERAGE EMPLOYMENT OVER YEAR BY INDUSTRY SUBDIVISION, 1986–87

(No. persons)

Industry subdivision										
ASIC code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
21	Food, beverages and tobacco	51,229	48,997	33,043	15,712	12,586	5,547	562	591	168,267
23	Textiles	9,322	18,660	880	2,396	1,214	n.p.	n.p.	—	33,858
24	Clothing and footwear	20,868	41,171	4,464	4,227	1,790	657	n.p.	n.p.	73,245
25	Wood, wood products and furniture	22,559	20,519	11,726	6,820	8,369	3,502	151	502	74,148
26	Paper, paper products, printing and publishing	37,165	34,638	11,149	7,759	7,761	5,152	387	1,867	105,878
27	Chemical, petroleum and coal products	25,107	19,419	3,342	2,162	2,936	n.p.	—	n.p.	53,791
28	Non-metallic mineral products	13,005	10,510	5,925	3,497	4,947	858	261	213	39,216
29	Basic metal products	37,570	13,179	6,700	5,761	6,416	n.p.	n.p.	n.p.	73,307
31	Fabricated metal products	34,443	29,573	12,969	7,010	8,543	1,574	n.p.	n.p.	94,889
32	Transport equipment	30,567	48,956	10,751	15,593	4,605	1,186	83	59	111,800
33	Other machinery and equipment	54,313	42,763	9,243	12,080	7,123	816	47	277	126,662
34	Miscellaneous manufacturing	21,359	22,942	5,217	6,795	3,037	442	84	52	59,928
	Total manufacturing									
	1986–87	**357,507**	**351,327**	**115,409**	**89,812**	**69,327**	**24,805**	**2,782**	**4,020**	**1,014,989**
	1984–85	364,805	356,687	109,940	92,205	64,242	24,494	2,645	3,430	1,018,448
	1983–84	363,300	353,248	110,438	90,658	61,997	24,498	2,432	3,247	1,009,818

Wages and salaries

The following table shows wages and salaries of all employees of manufacturing establishments including those working at separately located administrative offices and ancillary units in the State. Drawings of working proprietors are not included.

MANUFACTURING ESTABLISHMENTS—WAGES AND SALARIES BY INDUSTRY SUBDIVISION, 1986–87
($ million)

Industry subdivision										
ASIC code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
21	Food, beverages and tobacco	1,111	1,022	645	289	236	105	11	12	3,432
23	Textiles	196	375	17	44	21	n.p.	n.p.	n.p.	676
24	Clothing and footwear	314	655	63	63	24	9	n.p.	1	1,129
25	Wood, wood products and furniture	411	362	187	115	128	68	3	10	1,284
26	Paper, paper products, printing and publishing	880	784	217	166	145	128	8	42	2,370
27	Chemical, petroleum and coal products	662	496	93	59	79	n.p.	—	n.p.	1,414
28	Non-metallic mineral products	314	255	129	82	107	18	6	6	917
29	Basic metal products	1,027	361	178	153	190	n.p.	27	n.p.	2,019
31	Fabricated metal products	725	621	246	127	174	29	8	9	1,937
32	Transport equipment	678	1,073	213	345	99	24	2	1	2,434
33	Other machinery and equipment	1,159	906	186	232	152	15	1	7	2,658
34	Miscellaneous manufacturing	435	480	91	129	53	8	1	1	1,198
	Total manufacturing									
	1986–87	**7,912**	**7,390**	**2,263**	**1,805**	**1,408**	**536**	**67**	**88**	**21,469**
	1984–85	6,988	6,551	1,934	1,604	1,138	443	58	64	18,780
	1983–84	6,556	6,059	1,813	1,472	1,047	413	49	59	17,468

Turnover

The following table shows the value of turnover of manufacturing establishments. The figures include sales of goods whether produced by the establishment or not, transfers out of goods to other establishments of the same enterprise; bounties and subsidies on production; plus all other operating revenue from outside the enterprise (such as commission, repair and service revenue and rent, leasing and hiring revenue), plus capital work for own use, or for rental or lease. Receipts from interest, royalties, dividends, and sales of fixed tangible assets are excluded.

MANUFACTURING ESTABLISHMENTS—TURNOVER BY INDUSTRY SUBDIVISION, 1986–87
($ million)

Industry subdivision										
ASIC code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
21	Food, beverages and tobacco	7,277	7,734	5,023	1,896	1,785	825	61	48	24,648
23	Textiles	981	1,750	125	347	105	n.p.	n.p.	—	3,412
24	Clothing and footwear	1,368	2,392	194	217	66	30	n.p.	n.p.	4,269
25	Wood, wood products and furniture	1,887	1,587	771	507	630	399	12	43	5,836
26	Paper, paper products, printing and publishing	5,841	3,612	927	653	540	685	25	100	10,382
27	Chemical, petroleum and coal products	4,908	3,400	1,841	384	591	n.p.	—	1	11,278
28	Non-metallic mineral products	1,835	1,393	844	454	604	117	51	58	5,357
29	Basic metal products	5,870	3,082	1,782	931	1,891	n.p.	n.p.	n.p.	14,230
31	Fabricated metal products	3,181	2,548	1,188	579	769	123	n.p.	n.p.	8,464
32	Transport equipment	2,208	5,624	907	1,760	327	87	7	4	10,923
33	Other machinery and equipment	4,917	4,253	769	953	594	53	3	26	11,566
34	Miscellaneous manufacturing	2,225	2,457	477	612	298	41	5	2	6,116
	Total manufacturing									
	1986–87	**40,497**	**39,829**	**14,848**	**9,293**	**8,199**	**3,087**	**402**	**327**	**116,482**
	1984–85	34,087	33,436	12,921	7,847	6,789	2,423	407	299	98,209
	1983–84	30,950	30,081	11,707	7,137	5,923	2,221	359	263	88,641

Purchases, transfers in and selected expenses

The following table gives details of the value of purchases, transfers in and selected expenses. Figures include purchases of materials, fuels, power, containers, etc. and goods for resale, plus transfers in of goods from other establishments of the enterprise, plus charges for commission and sub-contract work, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses, sales commission payments and rent, leasing and hiring expenses.

MANUFACTURING ESTABLISHMENTS—PURCHASES, TRANSFERS IN AND SELECTED EXPENSES BY INDUSTRY SUBDIVISION, 1986–87
($ million)

Industry subdivision										
ASIC code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
21	Food, beverages and tobacco	4,584	5,112	3,499	1,314	1,272	546	38	30	16,394
23	Textiles	562	1,040	84	247	55	n.p.	n.p.	—	2,044
24	Clothing and footwear	806	1,294	98	110	30	17	n.p.	n.p.	2,358
25	Wood, wood products and furniture	1,141	942	440	306	348	241	7	27	3,452
26	Paper, paper products, printing and publishing	1,982	1,841	447	340	266	371	9	41	5,298
27	Chemical, petroleum and coal products	2,922	2,061	1,568	222	375	n.p.	—	n.p.	7,219
28	Non-metallic mineral products	1,131	797	519	245	347	73	35	41	3,188
29	Basic metal products	4,002	2,339	1,202	566	1,362	n.p.	n.p.	n.p.	9,946
31	Fabricated metal products	1,861	1,444	752	348	481	73	n.p.	n.p.	5,004
32	Transport equipment	1,122	3,828	579	1,124	169	34	4	2	6,860
33	Other machinery and equipment	2,667	2,408	447	522	342	23	2	14	6,423
34	Miscellaneous manufacturing	1,368	1,487	288	368	193	24	3	1	3,733
	Total manufacturing									
	1986–87	**24,148**	**24,591**	**9,923**	**5,710**	**5,241**	**1,853**	**269**	**183**	**71,918**
	1984–85	20,566	20,782	8,623	4,894	4,343	1,549	279	182	61,218
	1983–84	18,336	18,405	8,002	4,292	3,828	1,389	249	181	54,682

Stocks

Statistics on the value of opening and closing stocks at 30 June are shown in the following table. Figures include all the stocks of materials, fuels, etc., and finished goods and work-in-progress of the establishment whether located at the establishment or elsewhere.

MANUFACTURING ESTABLISHMENTS—OPENING AND CLOSING STOCKS BY INDUSTRY SUBDIVISION, 1986–87 ($ million)

Industry subdivision										
ASIC code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
	OPPENNING STOCKS AT 30 JUNE									
21	Food, beverages and tobacco	824	657	288	335	143	78	3	1	2,328
23	Textiles	137	270	17	58	14	n.p.	n.p.	—	536
24	Clothing and footwear	185	374	21	29	7	3	n.p.	n.p.	619
25	Wood, wood products and furniture	259	201	85	57	76	60	1	6	745
26	Paper, paper products, printing and publishing	318	358	72	55	44	58	1	6	913
27	Chemical, petroleum and coal products	840	610	165	69	97	n.p.	—	n.p.	1,807
28	Non-metallic mineral products	227	144	109	39	71	15	4	3	613
29	Basic metal products	981	307	274	191	257	n.p.	n.p.	n.p.	2,145
31	Fabricated metal products	387	343	138	61	74	13	n.p.	n.p.	1,071
32	Transport equipment	378	885	115	278	87	18	1	—	1,763
33	Other machinery and equipment	937	979	102	153	108	8	—	3	2,289
34	Miscellaneous manufacturing	311	290	48	82	32	4	1	—	768
	Total manufacturing									
	1986–87	**5,784**	**5,418**	**1,436**	**1,407**	**1,006**	**443**	**34**	**71**	**15,598**
	1984–85	4,802	4,486	1,411	1,127	781	321	77	83	13,089
	1983–84	4,735	4,444	1,401	1,130	747	324	77	62	12,918
	CLOSING STOCKS AT 30 JUNE									
21	Food, beverages and tobacco	830	690	337	362	158	88	4	1	2,470
23	Textiles	135	310	11	75	20	n.p.	n.p.	—	579
24	Clothing and footwear	208	422	27	32	12	4	n.p.	n.p.	706
25	Wood, wood products and furniture	287	231	97	70	83	65	1	7	843
26	Paper, paper, printing and publishing	339	380	71	60	48	72	2	6	978
27	Chemical, petroleum and coal products	876	652	196	61	87	n.p.	—	n.p.	1,901
28	Non-metallic mineral products	242	148	112	47	78	19	4	3	652
29	Basic metal products	1,033	334	264	238	231	n.p.	n.p.	n.p.	2,241
31	Fabricated metal products	411	378	148	66	84	14	n.p.	n.p.	1,150
32	Transport equipment	424	960	142	268	86	14	1	—	1,896
33	Other machinery and equipment	982	944	108	162	106	8	—	6	2,317
34	Miscellaneous manufacturing	349	328	49	89	41	5	1	—	862
	Total manufacturing									
	1986–87	**6,117**	**5,777**	**1,562**	**1,531**	**1,034**	**469**	**33**	**72**	**16,594**
	1984–85	5,330	4,986	1,499	1,269	849	385	78	78	14,474
	1983–84	4,835	4,546	1,397	1,127	788	330	77	82	13,182

Value added

The statistics on 'value added' contained in the following table have been calculated by adding to the value of turnover the increase (or deducting the decrease) in the value of stocks and deducting the value of purchases, transfers in and selected expenses.

MANUFACTURING ESTABLISHMENTS—VALUE ADDED BY INDUSTRY SUBDIVISION 1986–87 ($ million)

Industry subdivision										
ASIC code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
21	Food, beverages and tobacco	2,698	2,654	1,574	610	528	289	24	18	8,396
23	Textiles	417	749	34	117	55	n.p.	n.p.	—	1,411
24	Clothing and footwear	586	1,146	102	110	40	14	n.p.	n.p.	1,999
25	Wood, wood products and furniture	774	675	342	215	289	164	5	18	2,481
26	Paper, paper products, printing and publishing	1,880	1,792	479	318	279	327	17	59	5,149
27	Chemical, petroleum and coal products	2,022	1,380	305	155	206	n.p.	—	n.p.	4,152
28	Non-metallic mineral products	719	600	327	217	264	48	15	17	2,208
29	Basic metal products	1,920	769	570	412	509	n.p.	n.p.	n.p.	4,381
31	Fabricated metal products	1,345	1,139	446	235	297	52	n.p.	n.p.	3,540
32	Transport equipment	1,132	1,871	355	626	157	50	3	2	4,196
33	Other machinery and equipment	2,295	1,811	328	440	249	31	1	15	5,171
34	Miscellaneous manufacturing	895	1,008	190	252	113	17	2	1	2,478
	Total manufacturing									
	1986–87	**16,682**	**15,596**	**5,052**	**3,707**	**2,987**	**1,261**	**132**	**145**	**45,561**
	1984–85	14,060	13,154	4,386	3,095	2,513	938	129	113	38,387
	1983–84	12,713	11,779	3,701	2,842	2,137	838	110	102	34,221

Number of establishments

The following figures relate to manufacturing establishments as such and do not include the numbers of separately located administrative offices and ancillary units.

MANUFACTURING ESTABLISHMENTS—NUMBER OF ESTABLISHMENTS IN OPERATION AT 30 JUNE 1987 BY INDUSTRY

Industry subdivision										
ASIC code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
21	Food, beverages and tobacco	940	1,102	642	367	356	115	23	14	3,559
23	Textiles	227	300	48	40	38	8	2	—	663
24	Clothing and footwear	717	1,030	159	83	77	12	1	2	2,081
25	Wood, wood products and furniture	1,284	1,261	764	332	459	155	17	27	4,299
26	Paper, paper products, printing and publishing	1,186	947	349	217	267	62	18	30	3,076
27	Chemical, petroleum and coal products	375	284	92	40	66	13	—	1	871
28	Non-metallic mineral products	589	421	373	140	203	49	22	14	1,811
29	Basic metal products	179	203	72	41	56	12	2	2	567
31	Fabricated metal products	1,599	1,139	656	365	447	100	32	11	4,349
32	Transport equipment	410	403	259	129	146	24	7	6	1,384
33	Other machinery and equipment	1,492	1,189	394	315	348	50	10	16	3,814
34	Miscellaneous manufacturing	813	828	282	197	197	34	10	7	2,368
	Total manufacturing									
	30 June 1987	**9,811**	**9,107**	**4,090**	**2,266**	**2,660**	**634**	**144**	**130**	**28,842**
	30 June 1985	10,218	8,499	3,392	2,196	2,451	575	137	143	27,611
	30 June 1984	10,278	8,404	3,451	2,110	2,408	558	115	148	27,472

MANUFACTURING ESTABLISHMENTS—SUMMARY OF OPERATIONS BY INDUSTRY SUBDIVISION: AUSTRALIA

ASIC Description	*Establishments operating at 30 June* No.	*Average employment over year (a)* Persons	*Wages and salaries (b)* $m	*Turnover* $m	*Stocks at 30 June*		*Purchases, transfers in and selected expenses* $m	*Value added* $m	*Fixed capital expenditure less disposals* $m
					Opening $m	*Closing* $m			
				1984-85					
Food, beverages and tobacco	3,387	166,954	3,012	21,008	2,163	2,326	14,336	6,835	544
Textiles	656	33,521	586	2,689	407	473	1,729	1,026	106
Clothing and footwear	2,011	74,500	1,005	3,551	512	574	1,954	1,659	59
Wood, wood products and furniture	4,023	72,691	1,102	4,969	591	659	2,847	2,190	116
Paper, paper products, printing and publishing	2,972	102,095	1,969	8,145	733	882	4,249	4,044	311
Chemical, petroleum and coal products	887	55,090	1,269	9,811	1,438	1,570	6,402	3,542	293
Non-metallic mineral products	1,711	38,582	802	4,656	529	561	2,717	1,971	168
Basic metal products	529	76,668	1,782	12,439	2,018	2,236	8,661	3,996	672
Fabricated metal products	4,137	93,222	1,604	6,948	979	1,037	4,094	2,912	152
Transport equipment	1,308	119,648	2,326	9,790	1,277	1,438	6,142	3,809	346
Other machinery and equipment	3,778	126,746	2,304	9,268	1,809	1,999	5,092	4,366	219
Miscellaneous manufacturing	2,212	58,731	1,021	4,935	634	718	2,982	2,037	149
Total manufacturing	27,611	1,018,448	18,780	98,209	13,089	14,474	61,207	38,387	3,134
				1986–87					
Food, beverages and tobacco	3,559	168,198	3,432	24,648	2,328	2,470	16,394	8,396	n.a.
Textiles	663	33,858	676	3,412	536	579	2,044	1,411	n.a.
Clothing and footwear	2,081	73,245	1,129	4,269	619	706	2,358	1,999	n.a.
Wood, wood products and furniture	4,299	73,990	1,284	5,836	745	843	3,452	2,481	n.a.
Paper, paper products, printing and publishing	3,076	105,878	2,370	10,382	913	978	5,298	5,149	n.a.
Chemical, petroleum and coal products	871	53,791	1,414	11,278	1,807	1,901	7,219	4,152	n.a.
Non-metallic mineral products	1,811	39,216	917	5,357	613	652	3,188	2,208	n.a.
Basic metal products	567	73,307	2,019	14,230	2,145	2,241	9,946	4,381	n.a.
Fabricated metal products	4,349	94,889	1,937	8,464	1,071	1,150	5,004	3,540	n.a.
Transport equipment	1,384	110,038	2,434	10,923	1,763	1,896	6,860	4,196	n.a.
Other machinery and equipment	3,814	126,662	2,658	11,566	2,289	2,317	6,423	5,171	n.a.
Miscellaneous manufacturing	2,368	59,928	1,198	6,116	768	862	3,733	2,478	n.a.
Total manufacturing	28,842	1,013,000	21,469	116,482	15,598	16,594	71,918	45,561	n.a.

(a) Includes working proprietors. *(b)* Excludes the drawings of working proprietors.

Single Establishment Manufacturing Enterprises with Fewer than Four Persons Employed

SINGLE ESTABLISHMENT MANUFACTURING ENTERPRISES WITH FEWER THAN FOUR PERSONS EMPLOYED: SUMMARY OF OPERATIONS BY INDUSTRY SUBDIVISION, AUSTRALIA, 1986–87

Industry subdivision		*Establishments operating at 30 June*	*Employment at 30 June (a)*			*Wages and salaries (b)*	*Turnover*
ASIC code	*Description*		*Males*	*Females*	*Persons*		
						$m	$m
21	Food, beverages and tobacco	717	1,036	561	1,597	11.7	103.1
23	Textiles	260	329	204	533	3.9	24.3
24	Clothing and footwear	634	549	744	1,293	9.7	57.5
25	Wood, wood products and furniture	3,206	4,971	1,390	6,361	39.0	257.7
26	Paper, paper products, printing and publishing	1,320	1,686	1,092	2,778	26.3	150.8
27	Chemical, petroleum and coal products	223	330	141	471	4.8	33.1
28	Non-metallic mineral products	532	784	288	1,072	7.3	54.0
29	Basic metal products	149	234	64	298	2.8	14.1
31	Fabricated metal products	2,192	3,430	1,081	4,511	38.5	231.8
32	Transport equipment	721	1,142	306	1,448	11.2	72.2
33	Other machinery and equipment	1,672	2,371	1,032	3,403	32.5	183.6
34	Miscellaneous manufacturing	1,706	2,303	1,031	3,334	22.7	140.7
	Total manufacturing						
	1986–87	**13,332**	**19,165**	**7,934**	**27,099**	**210.6**	**1323.1**
	1984–85	14,243	21,351	8,148	29,499	195.4	n.a.
	1983–84	14,109	21,061	7,695	28,756	159.2	n.a.

(a) Includes working proprietors. *(b)* Excludes the drawings of working proprietors.

Principal Manufacturing Commodities

The factory production of certain commodities is shown in the monthly publications of the ABS, and in the publication, *Manufacturing Commodities, Selected Principal Articles Produced, Australia (Preliminary)* (8365.0). A more comprehensive list of articles produced is contained in the annual publication, *Manufacturing Commodities, Principal Articles Produced, Australia* (8303.0).

The table following shows the total recorded production of some selected articles manufactured in Australia. A more complete list is published in the ABS publication 8303.0 mentioned above.

QUANTITIES OF SELECTED ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA

Commodity code	*Article*	*Unit of quantity*	*1985–86*	*1986–87*	*1987–88*
	Acid (in terms of 100%)—				
401.29	Hydrochloric	tonnes	54,248	62,318	68,463
401.37	Nitric	"	192,514	203,484	203,547
401.57	Sulphuric	'000 tonnes	1,788	1,678	1,816
171.03,07, 08	Aerated and carbonated waters	kL	1,155,435	1,200,676	1,340,406
	Animal feeds—				
	From wheat—				
152.06	Pollard	'000 tonnes	232	241	241
159.11	Poultry pellets and crumbles	"	1,577	1,637	1,625
159.15	Poultry mash	"	135	146	119
647.98	Audio cassettes, pre-recorded	'000	20,623	21,245	26,843
	Batteries, wet cell type—				
685.13	Auto (SLI) 6 volts	"	147	108	95
685.17	Auto (SLI) 12 volts	"	2,608	2,352	2,252
172.02,04,06	Beer *(a)*	ML	1,863	1,861	1,893
064.21	Biscuits (excluding dog biscuits)	tonnes	131,459	133,846	138,069
152.02	Bran (wheaten)	'000 tonnes	90	95	104
172.21	Brandy	kL	1,255	1,453	n.y.a.
791.11–15	Brassieres	'000	7,595	10,149	9,479
066.01,05	Breakfast food, cereal (ready to eat)	tonnes	91,402	93,203	94,887
471.91,93,98	Bricks, clay	million	2,098	2,001	2,032
261.41	Briquettes, brown coal	'000 tonnes	852	811	809
	Broadwoven fabric *(b)*—				
384.91,93,98; 385.21,23	Cotton (including towelling)	'000 m^2	38,508	38,237	39,453
384.31–87;385.18	Man-made fibres	"	160,482	170,311	167,509
385.01–14,25–31	Wool	"	11,142	11,242	10,633
	Butter (plus direct butter oil) *(c)*	tonnes	104,900	103,855	94,244
789.71–83	**Cardigans,** jumpers, etc.	'000	12,658	10,714	8,858
474.02	Cement, Portland	'000 tonnes	6,106	5,920	6,150
	Cheese *(c)*—				
	Cheddar	tonnes	123,512	123,284	122,687
	Non-cheddar	"	46,748	54,185	53,630
435.22	Coke—metallurgical	'000 tonnes	3,534	3,253	3,727
475.90	Concrete, ready mixed	'000 m^3	14,162	13,810	15,096
	Confectionery—				
104.06–18	Chocolate	tonnes	75,956	82,667	86,458
104.21–29	Other	"	62,665	63,288	65,415
452.04	Copper, refined *(d)*	'000 tonnes	163	171	186
6,10	Cordials and syrups	kL	120,103	123,575	130,783
499.42	**Electricity**	mil. KWh	124,381	130,214	136,912
523.76–78	Electrodes for manual welding	'000 kg	15,905	13,966	13,601
696.01,03,05	**Fans,** electric (propeller type)	No.	679,074	642,239	723,822
	Floor coverings—*(e)*				
	Tufted carpets, floor rugs, mats and matting of or predominantly of—				
386.63	Man-made fibres	'000 m^2	24,120	23,705	23,675
386.71	Wool or fine animal hair	"	12,720	12,458	12,995
	Flour—				
062.01,32	Wheaten *(f)*	'000 tonnes	1,173	1,217	1,265
	Fruit juices, natural—				
074.61,65	Single strength	kL	238,323	225,651	235,792
127.21	**Glucose**	tonnes	73,295	71,004	84,592
	Heaters, room—				
651.11–20	Electric radiators, fires and room heaters	'000	n.a.	602,468	575,592
651.15	Gas fires and space heaters	No.	69,361	59,226	69,514

For footnotes, see end of table.

QUANTITIES OF SELECTED ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA—*continued*

Commodity code	*Article*	*Unit of quantity*	*1985–86*	*1986–87*	*1987–88*
	Hosiery—				
789.53,54,55,57, 59	Men's	'000 pairs	31,211	30,555	26,611
789.63,65	Children's and infants' (excl. panty hose)	"	17,947	17,223	16,988
051.56,58,59	**Ice cream** *(g)*	kL	201,726	207,676	212,758
051.87,89,90	Infants', invalids' and health beverages from cows milk *(h)*	tonnes	29,342	29,469	28,256
	Iron and steel—				
442.04,08	Iron	'000 tonnes	5,925	5,783	5,455
442.71–73	Steel ingots (including continuous cast billets)	"	6,826	6,387	6,093
442.28	Blooms and slabs *(i)*	"	4,446	3,670	2,660
076.60	**Jams** (including conserves, jellies, etc.)	tonnes	29,436	30,402	31,890
	Lawn mowers—				
699.51	Petrol, rotary	No.	290,239	276,357	279,071
453.04	Lead, refined *(j)*	'000 tonnes	206	142	182
063.15	**Malt** (excluding extract)	'000 tonnes	476	542	560
	Margarine—				
121.01	Table	tonnes	110,494	111,267	113,066
121.06,08	Other	"	38,547	40,219	43,603
844.22,25,27	Mattresses, inner spring	'000	738	785	846
027.02–75	Meat, canned *(k)*	tonnes	23,496	24,748	17,845
482.78	Meters, water consumption	'000	187	204	244
	Milk, condensed, concentrated and evaporated—				
051.28	Skim	tonnes	18,997	20,402	24,022
	Milk in powdered form *(c)*—				
	Wholemilk	"	52,086	65,308	63,744
	Skim or mixed skim and buttermilk	"	124,823	128,472	120,010
	Buttermilk	"	7,860	8,435	7,837
503.13–32	Motors, electric	'000	2,273	2,430	2,734
	Motor vehicles, assembled—				
551.03	Cars	No.	307,790	249,428	253,768
551.06	Station wagons	"	56,974	52,629	61,107
551.21,29	Utilities and panel vans *(l)*	"	25,912	20,462	22,107
	Oatmeal and rolled oats—				
062.62	For porridge, etc.	tonnes	25,141	27,593	n.p.
	Paint, etc.—				
	Architectural and decorative *(m)*—				
	Solvent thinned—				
410.01	Primers and undercoats	kL	6,909	6,614	6,282
410.03,05,07	Finishing coats	"	20,050	19,265	20,017
	Water thinned—				
410.11,13,15	Plastic latex	"	58,242	57,948	64,469
410.17	Other water based	"	2,916	4,130	4,858
	Paper—				
351.11	Newsprint	'000 tonnes	363	386	401
351.18–65	Other	"	760	823	848
352.01	Paperboard *(n)*	"	473	460	471
336.12	Particle board (resin bonded)	'000 m^2	731	705	728
	Preserves—				
	Fruit—				
076.04–40	Packaged *(o)*	tonnes	179,179	186,414	186,821
	Vegetables—				
094.04–48	Packaged *(o)*	"	124,300	123,895	128,062
	Pyjamas—				
791.75,80	Men's and boys', woven (suits only)	'000	2,667	2,724	2,353
	Records (phonograph) *(q)*				
647.93,94	45 r.p.m.	"	8,015	7,391	8,104
647.95	33 r.p.m.	"	14,422	14,335	14,910

For footnotes, see end of table.

QUANTITIES OF SELECTED ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA—*continued*

Commodity code	*Article*	*Unit of quantity*	*1985–86*	*1986–87*	*1987–88*
657.33,34,35	Refrigerators, domestic, electric	"	328	289	386
403.22–94	Resins, synthetic and plastics, for moulding, extrusion, lamination, calendering, etc	'000 tonnes	663	651	716
123.18	**Sauce,** tomato (incl. tomato ketchup)	kL	30,849	31,883	32,739
062.04	Semolina	'000 tonnes	43	50	54
	Shirts, (men's and boys')—				
	Men's—				
791.20,21,23	Knitted	'000	17,522	20,229	17,716
791.25,26,30,31	Woven	"	13,399	12,938	12,273
	Boys'—				
791.28,32	Knitted	"	5,810	5,709	4,438
791.34	Woven	"	2,442	1,626	1,129
805.01	Soap, for personal toilet use	tonnes	26,199	27,361	30,388
127.15	Starch (incl. cornflour)	"	172,056	161,940	173,548
	Stoves, ovens and ranges, domestic cooking—				
661.02,11	Electric *(s)*	No.	206,159	182,689	207,739
662.26,31,34	Gas, upright or elevated (with oven)	"	106,961	92,810	94,806
405.36	Sulphate of ammonia	tonnes	204,909	165,397	179,211
415.07,405.25	Superphosphate *(t)*	'000 tonnes	2,610	2,769	3,194
792.03–10	Swimwear *(u)*	'000	n.p.	3,863	3,971
	Tallow (including dripping), rendered—				
391.15	Edible	"	75,379	82,955	86,384
391.24	Inedible	"	257,789	267,569	288,435
647.25–28	Television sets (colour)	No.	237,925	210,590	176,756
	Tiles, roofing—				
475,32	Concrete	'000	18,008	14,388	16,342
472.15	Terracotta	"	3,222	3,285	3,399
661.22	Toasters, electric (domestic)	No.	305,809	358,969	n.p.
683.53–61	Transformers, chokes and ballasts, for distribution of power and light, etc.	kVA	7,032,185	8,374,996	8,588,063
	Wash basins—				
671.37	Earthenware	'000	261	238	n.p.
693.02,04	Washing machines, household, electric	"	282	400	394
152.14	Wheatmeal for stock feed	'000 tonnes	301	354	324
	Wine, beverage—				
172.42	Fortified	kL	41,692	31,766	n.y.a.
172.46	Unfortified	"	294,686	277,422	n.y.a.
341.32–45	Wood pulp (air dried)	'000 tonnes	517	535	580
383.09,11	Wool, scoured or carbonised	tonnes	112,396	130,254	127,624
383.27–31	Wool tops, pure	"	23,598	24,474	25,904
	Yarn (including mixtures)—				
383.79–87	Cotton	"	20,501	21,161	20,667
383.89–95	Worsted	"	5,169	5,597	5,192
383.97, 99, 384.01, 03	Woollen	"	18,631	17,481	17,988
383.46–73	Discontinuous synthetic fibre	"	9,685	10,746	9,458
457.04	**Zinc,** refined *(d)*	'000 tonnes	297	300	306

(a) Excludes waste beer and beverages with alcohol content of 1.15 per cent or less. *(b)* Includes mixture predominantly of the fibre named. *(c) Source:* Australian Dairy Corporation. *(d)* Primary origin only. *Source:* Bureau of Mineral Resources. *(e)* Excludes underfelts and products of coir, sisal or other hard fibres. *(f)* Includes wheatmeal for baking, includes sharps. *(g) Includes ice cream combined with other confections, including those aerated milk-based confections which contain 10 per cent or more butterfat.* *(h)* Includes malted milk and milk sugar (lactose). *(i)* Primary mills output. *(j)* Includes lead content of lead alloys from primary sources but excludes lead-silver bullion. *(k)* Excludes poultry and baby food. *(l)* Includes utilities, panel vans, prime movers for semi-trailers and units consisting of chassis, engine and cabs produced for sale and transfer out as such. Excludes off-highway trucks (e.g. dump wagons), materials handling trucks (e.g. forklift trucks) and semi-trailers. *(m) Excludes heavy duty coatings.* *(n)* Excludes coated container board. *(o)* Packaged: canned, bottled or stored in plastic or other containers. *(q)* Conventional stereophonic discs. *(s)* Includes wall ovens but excludes cooking tops and portable units. *(t)* Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate i.e. 22 per cent P^2O^3 equivalent. *(u)* Includes swim shorts. Excludes infants' and babies' swimwear.

Enterprise Statistics—Integrated Economic Censuses and Surveys

The Integrated Economic Censuses and Surveys conducted by the Australian Bureau of Statistics have, since 1977–78, included enterprises primarily engaged in Mining and Manufacturing, with Electricity and Gas Production and Distribution collected in 1977–78 and annually from 1979–80, while other economic sectors are approached on a rotating basis. Statistics in respect of enterprises have been published in *Annual Economic Censuses and Surveys: Enterprise Statistics, Australia* (8103.0).

Below is a brief summary of the Censuses' collection units and methodology and a summary table of enterprise statistics. More detailed explanations on the Censuses are shown in the above publication.

The business units, as standardised for purposes of the Economic Censuses and Surveys are at three levels: the establishment (and associated administrative offices and ancillary units); the enterprise; and the enterprise group.

The central unit from which statistical information was collected is the *enterprise*, defined broadly as the unit comprising all operations in Australia of a single operating legal entity. The term legal entity is used to cover a sole proprietor, or partnership, or company, but also includes cooperative societies and some government authorities mainly engaged in the industries included in the Censuses and Surveys.

The group of legal entities owned or controlled by a single company is recognised as a separate type of unit—the *enterprise group*. The basic unit for which most data were collected and tabulated is *the establishment*, defined in general as a unit comprising all the operations carried on by the one enterprise at a single physical location—such as an individual factory, shop or mine.

In the Intergrated Economic Censuses and Surveys, information was collected using a common framework of reporting units (enterprises and establishments as defined above) and data concepts, in accordance with a standard industrial classification (the *Australian Standard Industrial Classification*, 1983 Edition). As a result the statistics for the industries covered by the Censuses and Surveys are provided with no overlapping or gaps in scope, so that aggregates for economic data such as value added, employment, wages and salaries, fixed capital expenditure and stocks are obtained on a consistent basis for all industries and business units covered by the Censuses and Surveys. A detailed description of the Integration of Economic Censuses is contained in Chapter 31, *Year Book* No. 56, 1970.

ENTERPRISES—SUMMARY OF OPERATION BY INDUSTRY, AUSTRALIA

Industry and year	*Enterprises operating during year (a)*	*Persons employed at 30 June (b)*	*Wages and salaries (c)*	*Turnover (d)*	*Purchases and selected expenses (e)*	*Rent leasing and hiring expenses (f)*	*Stocks (g)*		*Value added (h)*	*Fixed captial expend-iture less disposals (i)*
							Opening	*Closing*		
	No.	No.	$m	$m	$m	$m	$m	$m	$m	$m
Mining (excluding services to Mining)—										
1983–84	890	72,743	2,002.5	12,687.7	4,210.1	202.3	1,853.2	1,852.7	8,274.7	2,428.7
1984–85	925	76,696	2,235.1	15,891.3	5,237.3	197.8	1,993.5	1,895.4	10,358.1	1,920.7
Manufacturing—										
1983–84	22,807	1,026,041	17,679.9	88,744.3	51,613.7	1,484.1	14,085.2	14,294.1	35,855.3	2,914.0
1984–85	23,105	1,046,139	19,215.5	99,525.5	58,624.9	1,630.3	14,386.1	16,052.4	40,935.9	3,236.1
Electricity and Gas—										
1983–84	97	94,981	2,119.0	10,383.4	4,762.4	163.9	766.2	785.8	5,476.9	3,684.2
1984–85	97	94,519	2,295.3	11,461.2	5,252.6	266.5	781.6	697.2	5,857.6	3,076.6

(a) The number of enterprises in operation for all or any part of the year which were in the scope of the censuses and surveys. *(b)* Working proprietors and employees, including part-time and casual employees as at 30 June. *(c)* Wages and salaries paid during the year to employees of the enterprise. Drawings of working proprietors are excluded. *(d)* Sales of goods, commission revenue, repair and service revenue, rent, leasing and hiring revenue, government bounties and subsidies and all other operating revenue except interest, royalties and dividends. *(e)* Purchases by the enterprise of goods for manufacture or resale, containers, stores and supplies (except office supplies) and charges for fuels, electricity and water, freight and cartage, vehicle running expenses, sales commission expenses, repair and maintenance expenses, and commission and subcontract expenses. *(f)* Amount paid for rent and leasing premises, vehicles and equipment. *(g)* Stocks of materials, fuels etc. work in progress and finished goods owned by the enterprise. *(h)* This is derived as turnover plus increase (less decrease) in stocks, less purchases and selected expenses, less rent, leasing and hiring expenses. *(i)* Outlay on new assests (including progress payments) and land and secondhand fixed tangible assets less disposals.

Foreign Ownership and Control in the Manufacturing Industry

Summary information on foreign ownership and control in the manufacturing industry is given in Chapter 26.

RETAIL TRADE

Estimates of the value of retail sales of goods (excluding motor vehicles, parts, petrol, etc.) by industry, and quarterly estimates by commodity groups, are obtained by means of sample survey for each State and the Australian Capital Territory. Tables showing estimates derived from these surveys are given below.

VALUE OF RETAIL SALES OF GOODS (EXCLUDING MOTOR VEHICLES, PARTS, PETROL, ETC.) AT CURRENT PRICES: INDUSTRIES (a)

($ million)

ASIC Code	*Description*	*1984–85*	*1985–86*	*1986–87*
4881	Grocers, confectioners, tobacconists	14,852.7	16,585.7	18,034.0
4882	Butchers	1,550.5	1,814.0	1,855.0
4815	General stores	470.9	498.4	510.4
4883,5,6	Other food stores	2,910.1	3,301.7	3,728.0
4884;9232;9241,2,3	Hotels, liquor stores, licensed clubs	5,487.6	6,068.5	6,427.1
4843,4,7	Clothiers	4,363.0	4,864.9	5,005.7
4814	Department stores	5,438.8	5,934.1	6,486.2
4845	Footwear stores	806.2	883.5	975.1
4853,4	Hardware stores	1,188.7	1,367.7	1,499.8
4855,6	Electrical goods stores	2,705.2	2,861.8	2,933.6
4849	Furniture stores	1,215.2	1,460.0	1,426.9
4848	Floor coverings stores	522.4	572.4	612.6
4891	Chemists	1,854.4	2,052.2	2,313.3
4894	Newsagents	1,706.2	1,798.5	2,019.3
4892,3,5,6,7; 9231; 9251,2	Other	1,960.3	2,382.3	2,783.1
	Total *(b)*	**47,032.2**	**52,444.9**	**56,610.4**

(a) Excludes ASIC groups 486 (Motor vehicle dealers; petrol and tyre retailers) and 934 (Laundries and dry-cleaners) and ASIC classes 4846 (Shoe repairers), 4857 (Electrical appliance repairers), 9133 (Motion picture threatres), 9223 (Accommodation) which were included in the Census of Retail Establishments and Selected Services Establishments for 1979–80. Excludes Northern Territory. *(b)* A small difference between this figure and that for the total value of retail sales shown in the table below occurs due to some businesses having access to more up-to-date records when supplying the data for commodities.

VALUE OF RETAIL SALES OF GOODS (EXCLUDING MOTOR VEHICLES, PARTS, PETROL, ETC.) AT CURRENT AND CONSTANT PRICES: COMMODITY GROUPS (a)

($ million)

	Current prices			*Average 1979-80 Prices*		
Commodity group	*1984–85*	*1985–86*	*1986–87*	*1984–85*	*1985–86*	*1986–87*
Groceries *(b)*	10,544.0	11,912.6	12,981.9	7,004.2	7,336.3	7,564.4
Fresh meat	2,385.9	2,716.1	2,829.4	1,922.0	2,140.2	2,076.8
Other food *(c)*	4,717.3	5,289.8	5,917.9	2,946.1	3,032.1	3,032.1
Beer, wine and spirits	5,883.0	6,435.0	6,864.7	3,804.8	3,860.9	3,751.5
Clothing and drapery	6,416.4	7,107.8	7,591.6	4,706.9	4,790.2	4,657.6
Footwear	1,121.8	1,244.4	1,366.1	784.0	807.0	805.9
Hardware, china and glassware *(d)*	2,144.1	2,339.9	2,557.6	1,437.9	1,454.2	1,385.5
Electrical goods *(e)*	3,452.5	3,659.4	3,801.0	3,214.7	3,289.2	3,191.7
Furniture	1,529.4	1,798.0	1,785.7	988.6	1,064.1	984.7
Floorcoverings	608.9	673.8	703.4	439.0	430.0	420.0
Cosmetics	1,177.4	1,353.3	1,554.0	720.0	764.9	821.9
Medicines etc.	1,107.2	1,201.9	1,375.1	772.3	791.9	841.8
Newspapers, books and stationery	2,037.7	2,233.3	2,488.5	1,182.1	1,168.7	1,151.5
Other goods *(f)*	3,892.4	4,554.0	4,990.4	2,692.1	2,896.8	2,849.5
Total (excluding motor vehicles, etc.)	**47,028.0**	**52,519.5**	**56,807.8**	**32,614.7**	**33,826.5**	**33,535.4**

(a) Excludes Northern Territory. *(b)* Includes confectionery, milk (except home deliveries by vendors) and frozen foods. *(c)* Includes fresh fruit and vegetables, bread (except home deliveries by vendors), cakes and pastries (except frozen), seafoods (fresh and cooked), hamburgers, cooked chicken, sandwiches, pizzas (except frozen), Chinese food, ice cream and soft drink. *(d)* Excludes basic building materials, builders' hardware and supplies such as tools of trade, paint, etc. *(e)* Includes radios, television and accessories, musical instruments, domestic refrigerators, etc. *(f)* Includes tobacco, cigarettes, etc., sporting goods, etc., but excludes grain and produce and business machines.

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PRICES

RETAIL PRICES AND PRICE INDEXES

Retail prices of food and groceries and average rentals of houses have been collected by the Australian Bureau of Statistics for the years extending back to 1901 and, in some cases, by the statistical offices of various States for earlier years.

Retail prices of a more extensive range of commodities (including clothing) and certain services in common demand have been collected at frequent and regular intervals since 1923. (Comparable information was collected for the month of November in each year from 1914 to 1922.) The range of items for which retail prices data are obtained was considerably expanded in 1948 and in later years. Average retail prices of certain food and grocery items in the relevant periods were published in the annual *Labour Report* (now discontinued). An historical perspective giving more detail of these earlier indexes was published in *Year Book Australia 1988* (No. 71).

The current retail price index, the Consumer Price Index (CPI), was published for the first time in August 1960 and was compiled retrospectively to the September quarter 1948. A description of the Consumer Price Index is given below.

Further information about the CPI is contained in a booklet entitled *A Guide to the Consumer Price Index* (6440.0) which is available from the ABS on request. For a more detailed account, *The Australian Consumer Price Index, Concepts, Sources and Methods* (6461.0) describes what the index measures, the goods and services included in it, and how the index is produced; it also describes the problems encountered in compiling the CPI and how those are dealt with.

Consumer Price Index

The Consumer Price Index (CPI) measures quarterly changes in the price of a 'basket' of goods and services which account for a high proportion of expenditures by metropolitan wage and salary earner households. This 'basket' covers a wide range of goods and services arranged in the following eight groups: food; clothing; housing; household equipment and operation; transportation; tobacco and alcohol; health and personal care; and recreation and education. The eight groups in turn are divided into 35 sub-groups and 107 expenditure classes.

From its inception in 1960, the CPI covered the six State capital cities. In 1964 the geographical coverage of the CPI was extended to include Canberra. From June quarter 1982 geographic coverage was further extended to include Darwin.

Index numbers at the Group and All Groups levels are published for each capital city and for the weighted average of eight capital cities. Sub-group index numbers are published for the weighted average of eight capital cities.

Conceptual basis for measuring price changes

The CPI is a quarterly measure of the change in average retail price levels. It provides a method of comparing the average price level for a quarter with the average price level of the reference base year or changes in the average price level from one quarter to the next. In measuring price changes, the CPI aims to measure only pure price changes (i.e. price changes excluding the effects of any changes in the quality or quantity of the goods or services concerned)—in other words to measure, each quarter, the change in the cost of purchasing an identical basket of goods and services. The CPI is a measure of changes in transaction prices—the prices actually paid by consumers for the goods and services they buy. It is not concerned with nominal, recommended or list prices (unless they are the prices consumers actually pay).

The CPI is often loosely, and incorrectly, referred to as a cost-of-living index. However, a true cost-of-living index (if such a measure could be compiled) would not be the same thing as a fixed-weight retail price index like the CPI. A cost-of-living index would need to take account of changes in standards of living and the substitutions that consumers make in response to changing market conditions, such as changes in supply, or in response to disparate price movements.

The CPI measures price change over time and does not provide comparisons between relative price levels at a particular date. For example, it does not show whether beef is dearer than lamb, or whether bus fares are dearer than train fares. The fact that the index number for any particular component is higher than that for another component in a particular quarter does not mean that the first component is more expensive than the second—it merely means that, since the reference base year, prices for the first component have risen more than prices for the second component. Similarly, the CPI does not provide any basis for measuring relative price levels between the different cities. For example it says nothing about whether prices are higher in Sydney or Perth—it shows only whether prices have changed more in Sydney or in Perth.

Index population

Because the spending patterns of various groups in the population differ somewhat, the pattern of one large group, fairly homogeneous in its spending habits, is chosen for the purpose of calculating the CPI. The CPI population group is, in concept, metropolitan employee households. For this purpose employee households are defined as those households which obtain the major part of their household income from wages and salaries; metropolitan means the eight capital city Statistical Divisions.

Weighting pattern

Each of the 107 expenditure classes in the current CPI has a fixed weight (i.e. the measure of its relative importance). Details of the weighting pattern are shown in the following table. More detailed information on weighting is published in *The Australian Consumer Price Index: Concepts, Sources and Methods* (6461.0).

Changes in the weighting pattern have been made at approximately five-yearly intervals to take account of changes in household spending patterns. The CPI, in fact, comprises eleven separate series which have been linked to form a continuous series. The eleventh series (i.e. the current series) was introduced in the March quarter 1987, with a weighting pattern based on estimated household expenditure in 1984.

The CPI 'basket of goods and services' covers items which are considered representative of metropolitan households' spending habits and whose prices can be associated with an identifiable and specific quantity of a commodity or service. Income taxes and personal savings, on the other hand, do not form part of the CPI because they cannot be clearly associated with the purchase of a specific quantity of any goods or services.

CONSUMER PRICE INDEX—ELEVENTH SERIES: WEIGHTING PATTERN AT DECEMBER QUARTER 1986 WEIGHTED AVERAGE OF EIGHT CAPITAL CITIES

Groups and sub-groups	*Percentage contribution to the all groups CPI*
FOOD	**19.013**
Dairy products	1.536
Cereal products	1.978
Meat and seafoods	3.495
Fresh fruit and vegetables	1.921
Processed fruit and vegetables	0.852
Soft drinks, ice cream and confectionery	2.829
Meals out and take away foods	4.671
Other food	1.731
CLOTHING	**6.898**
Men's and boys' clothing	1.952
Women's and girls' clothing	3.102
Fabrics and knitting wool	0.499
Footwear	1.107
Dry cleaning and shoe repairs	0.238
HOUSING	**14.062**
Rents	4.450
Home ownership	9.612
HOUSEHOLD EQUIPMENT AND OPERATION	**18.429**
Fuel and light	2.442
Furniture and floor coverings	4.115
Appliances	1.535
Household textiles	0.690
Household utensils and tools	1.748
Household supplies and services	3.918
Postal and telephone services	1.478
Consumer credit charges	2.503
TRANSPORTATION	**17.025**
Private motoring	16.069
Urban transport fares	0.956
TOBACCO AND ALCOHOL	**8.173**
Alcoholic drinks	5.955
Cigarettes and tobacco	2.218
HEALTH AND PERSONAL CARE	**5.596**
Health services	2.992
Personal care products	1.943
Hairdressing services	0.661
RECREATION AND EDUCATION	**10.804**
Books, newspapers and magazines	1.229
Recreational goods	2.877
Holiday travel and accommodation	3.135
Recreational services	2.305
Education and child care	1.258
TOTAL ALL GROUPS	**100.000**

Collecting prices

Since the CPI is designed to measure the impact of changing prices on metropolitan wage and salary earner households, price movements are monitored in the kinds of retail outlets or other establishments where such households normally purchase goods and services. This involves collecting prices from many sources including supermarkets, department stores, footwear stores, restaurants, motor vehicle dealers and service stations, dental surgeries, hotels and clubs, schools, hairdressers, travel agents, airlines, bus operators, house builders, real estate developers, electricians and plumbers. Items such as bus, rail and air fares, electricity and gas charges, telephone charges and local authority rates are collected from the appropriate authorities. Information on rents is obtained from property management companies and government housing authorities. In total, around 100,000 separate price quotations are collected each quarter.

Prices of the goods and services included in the CPI are generally collected quarterly. However, some important items are priced monthly or more frequently (e.g. bread, fresh meat and fish, fresh fruit and vegetables, petrol, alcohol and tobacco) and a small number are collected annually (e.g. seasonal clothing, local government rates and charges).

The bulk of items for which prices are collected quarterly are priced at the middle of the mid-month of the quarter (i.e. in August, November, February and May), but, to facilitate a more even spread of the field collection workload, some goods and services are priced in the first or third months of each quarter. Items priced in the third month are generally those subject to price changes at discrete points of time (e.g. electricity and postal charges); in these cases information is obtained of any changes in price during the quarter so that an average price for the whole quarter can be calculated.

The prices used in the CPI are those that any member of the public would have to pay on the pricing day to purchase the specified good or service. Any sales or excise taxes which the consumer must pay when purchasing specific items are included in the CPI price. Sale prices, discount prices and 'specials' are reflected in the CPI so long as the items concerned are of normal quality (i.e. not damaged or shop soiled) and are offered for sale in reasonable quantities. To ensure that the price movements reflect the experience of the bulk of the metropolitan population, the brands and the varieties of the items which are priced are generally those which sell in greatest volume.

Changes in quality

Since the CPI aims to measure the price change of a constant basket of goods and services over time it is necessary to ensure that identical or equivalent items are priced in successive time periods. This involves evaluating changes in the quality of goods and services included in the index and removing the effects of such changes so that the index reflects only the price change.

Periodic revision of the CPI

The CPI is periodically revised in order to ensure it continues to reflect current conditions. CPI revisions have usually been carried out at approximately five-yearly intervals, the most recent having been completed in March 1987. Previous revisions of the CPI were introduced at: December quarter 1963; December quarter 1968; December quarter 1973; September quarter 1974; September quarter 1976; and March quarter 1982. Following each revision, the new series with its changed composition and weighting pattern is linked to the previous series to form one continuous series. The process of linking ensures that the continuous series reflects only price variations and not differences in costs of the old and new baskets.

CONSUMER PRICE INDEX: ALL GROUPS INDEX NUMBERS
(Base of each index: *Year* 1980–81 = 100.0) (a)

Year	*Sydney*	*Mel-bourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	*Canberra*	*Darwin*	*Weighted average of eight capital cities*
1978–79	82.4	83.1	83.4	83.2	84.1	83.1	82.3	..	*(b)*83.0
1979–80	91.1	91.4	91.5	91.6	91.9	91.6	91.1	..	*(b)*91.4
1980–81	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1981–82	110.2	110.4	110.7	110.5	111.2	110.0	110.7	111.1	110.4
1982–83	123.4	122.8	122.9	123.5	122.5	121.8	124.0	123.1	123.1
1983–84	130.9	132.1	131.7	132.3	131.0	129.9	132.3	130.2	131.6
1984–85	136.0	138.1	137.9	138.7	136.1	136.1	138.8	135.1	137.2
1985–86	147.5	149.8	149.0	150.2	147.1	147.9	150.8	146.2	148.7
1986–87	161.4	163.9	161.8	164.0	161.8	162.5	163.4	159.3	162.6
1987–88	173.7	175.9	173.1	175.0	173.3	174.4	174.7	170.6	174.5

(a) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities. *(b)* Prior to 1980–81 index numbers are for weighted average of six State capital cities.

CONSUMER PRICE INDEX: GROUP INDEX NUMBERS WEIGHTED AVERAGE OF EIGHT CAPITAL CITIES
(Base of each index: *Year* 1980–81 = 100.0 unless otherwise noted)

Year	*Food*	*Clothing*	*Housing*	*Household equipment and operation*	*Transport-ation*	*Tobacco and alcohol*	*Health and personal care*	*Recreation and educ-ation (a)*	*All groups*
1978–79 *(b)*	79.5	87.3	84.7	83.3	80.9	86.4	83.4	..	83.0
1979–80 *(b)*	90.6	93.3	91.0	90.0	91.3	93.6	91.1	..	91.4
1980–81	100.0	100.0	100.0	100.0	100.0	100.0	100.0	..	100.0
1981–82	108.6	107.1	111.1	110.6	110.3	109.2	124.2	..	110.4
1982–83	118.5	114.2	122.8	123.8	124.2	124.1	153.2	107.7	123.1
1983–84	127.7	120.9	131.5	132.6	134.8	139.6	146.5	114.5	131.6
1984–85	134.4	128.4	141.4	138.9	143.4	151.3	121.8	118.9	137.2
1985–86	144.7	139.0	153.4	150.2	155.5	165.1	133.0	129.5	148.7
1986–87	156.3	152.3	164.8	161.2	172.9	182.5	154.4	141.5	162.6
1987–88	164.5	164.2	176.2	172.4	186.4	197.8	171.9	152.6	174.5

(a) Base: March quarter 1982 = 100.0. Group index not compiled for earlier quarters. *(b)* Prior to 1980–81 index numbers are for weighted average of six State capital cities.

CONSUMER PRICE INDEX NUMBERS: AUSTRALIA AND OTHER COUNTRIES (a)
(Base of each index: *Year* 1980 = 100.0)

Period	*Australia (b)*	*Canada*	*Federal Republic of Germany*	*Indonesia*	*Japan*	*New Zealand*	*United Kingdom*	*United States of America*
Year—								
1982	122	125	112	123	108	134	122	117
1983	134	132	116	137	110	144	127	121
1984	140	138	118	152	112	153	133	126
1985	149	143	121	159	114	176	142	131
1986	163	149	121	168	115	200	146	133
1987	177	156	121	184	115	231	152	138
Quarter—								
1986—								
Sept.	164	150	120	168	115	200	146	133
Dec.	169	151	120	175	115	218	148	134
1987—								
Mar.	172	153	121	178	114	223	150	136
June	175	155	121	181	116	230	152	137
Sept.	178	157	121	185	116	234	153	139
Dec.	181	158	121	191	116	238	154	140

(a) The composition of these indexes varies considerably in the various countries. The index numbers show changes in prices in each country over time and do not measure relative price levels between countries. *(b)* Consumer Price Index (All Groups) converted to base: 1980 = 100.0.

Source: Monthly Bulletin of Statistics of the Statistical Office of the United Nations.

Long-term linked series

To provide an approximate long-term measure of retail price change for the period since the first Australian retail price index was compiled, a single series of index numbers has been constructed by linking together selected retail price index series from amongst those described above. The index numbers are expressed on a reference base 1945 = 100, which was the end of a period of relative price stability during World War II. The successive series linked together to produce this long-term series of index numbers are:

- from 1901 to 1914, the A Series Index;
- from 1914 to 1946–47, the C Series Index;
- from 1946–47 to 1948–49, a combination of the C Series Index (excluding rent) and the housing group of the CPI;
- from 1948–49 onwards, the CPI.

A considerable range of information on retail prices both in the form of index numbers and average retail prices, for various localities in Australia (in some cases back to 1901) is available in the *Labour Report*, published by the ABS continuously from 1912 to 1973. Various editions of the *Labour Report* also contained detailed descriptions of the methodology used in compiling the various indexes and details of their composition and weighting. A comprehensive description of the C Series Index, including details of its composition and weighting, was last published in *Labour Report* No. 41 in 1952. Descriptive material on the Interim Retail Price Index was last published in *Labour Report* No. 46 in 1958.

RETAIL PRICE INDEX NUMBERS—AUSTRALIA (a)
LONG TERM LINKED SERIES
(Base: *Year* 1945 = 100)

Year	*Index number*	*Year*	*Index number*	*Year*	*Index number*
1901	47	1931	78	1961	252
1902	50	1932	74	1962	251
1903	49	1933	71	1963	252
1904	46	1934	73	1964	258
1905	48	1935	74	1965	268
1906	48	1936	75	1966	276
1907	48	1937	78	1967	286
1908	51	1938	80	1968	293
1909	51	1939	82	1969	302
1910	52	1940	85	1970	313
1911	53	1941	89	1971	332
1912	59	1942	97	1972	352
1913	59	1943	101	1973	385
1914	61	1944	100	1974	443
1915	70	1945	100	1975	510
1916	71	1946	102	1976	579
1917	75	1947	106	1977	650
1918	80	1948	117	1978	702
1919	91	1949	128	1979	766
1920	103	1950	140	1980	844
1921	90	1951	167	1981	926
1922	87	1952	196	1982	1,028
1923	89	1953	205	1983	1,132
1924	88	1954	206	1984	1,177
1925	88	1955	211	1985	1,257
1926	90	1956	224	1986	1,370
1927	89	1957	229	1987	1,487
1928	89	1958	233		
1929	91	1959	237		
1930	87	1960	245		

(a) The index numbers relate to the weighted average of six State capital cities up to 1980; from 1981 they relate to the weighted average of eight capital cities.

Average retail prices

Average retail prices for a range of selected (mainly food) items have been published regularly since 1901. Since 1962, data on average retail prices in each of the capital cities have been published quarterly in *Average Retail Prices of Selected Items* (6403.0). Prior to that date information was published in the annual *Labour Report* (now discontinued).

Indexes of relative retail prices of food

Since 1962 the ABS has conducted an annual survey of food prices in approximately 200 cities and towns throughout Australia. Information from this survey is used to compile index numbers measuring the relative levels of food prices in the different localities at the time the survey is conducted (currently in May each year). The index numbers are produced by combining the prices for the selected food items using a common set of weights (derived from the weighting pattern of the CPI Food Group). The resulting index numbers are expressed on the base: Weighted Average of Eight Capital Cities = 100.

Index numbers for localities in the States are available from the ABS on request.

PRODUCER AND WHOLESALE PRICE INDEXES

Historical perspective

The first price index of this kind compiled by the ABS was the Melbourne Wholesale Price Index which was introduced in 1912 with index numbers compiled back to 1861 from prices extracted from newspapers and trade publications. Index numbers were compiled up to 1961. The index related chiefly to basic materials and foods weighted in accordance with consumption in about the year 1910 and neither the list of items nor the weighting was varied during the life of the index. A description of the index and a list of the commodities included was last published in *Labour Report* No. 38, 1949.

The next index published was the Wholesale Price (Basic Materials and Foodstuffs) Index which was introduced in 1939; index numbers are available for the period 1928 to 1970. The index related to commodities in their basic or primary form and prices were obtained as near as possible to the point where they made their first effective impact on the local price structure. With few exceptions, prices were obtained from Melbourne sources. The weights were based on estimates of the average annual consumption of the commodities in Australia during the period 1928–29 to 1934–35 inclusive. A list of the commodities and other information concerning the index was last published in *Labour Report* No. 53, 1967.

During the 1960s the ABS began producing a range of price indexes covering materials used and articles produced by defined sectors of the Australian economy. The following indexes are now published monthly:

- Price Index of Materials Used in House Building
- Price Index of Materials Used in Building Other than House Building
- Price Indexes of Materials Used in Manufacturing Industries
- Price Indexes of Articles Produced by Manufacturing Industry.

Prices are collected from representative suppliers or manufacturers of the materials or articles included in the indexes. Midmonth prices are generally used to compile the two building materials indexes and the Price Indexes of Articles Produced by Manufacturing Industry. Average monthly prices are mainly used to compile the Price Indexes of Materials Used in Manufacturing Industries.

Following is a table giving a broad indication of long-term price changes, drawing on the producer and wholesale price indexes available, on a common reference base: Year 1968–69 = 100.0. The Melbourne Wholesale Price Index and the Wholesale Price (Basic Materials and Foodstuffs) Index have been linked at 1928–29 to provide a continuous series.

PRODUCER AND WHOLESALE PRICE INDEXES
(Reference base: *Year* 1968–69 = 100.0)

	Melbourne Wholesale Price Index (All Groups)	*Wholesale Price (Basic Materials and Foodstuffs) Index (All Groups)*	*Price Index of Materials used in House Building (All Groups)*	*Price Index of Materials used in Building Other than House Building (All Groups)*	*Price Indexes of Materials used in Manufacturing Industries (Manufacturing Division)*	*Price Indexes of Articles Produced by Manufacturing Industry (Manufacturing Division)*
1861	24.2	..	..	..	..	..
1871	19.3	..	..	..	..	..
1881	17.6	..	..	..	..	..
1891	14.9	..	..	..	..	..
1901	15.3	..	..	..	..	..
1911	15.7	..	..	..	..	..
1921	30.0	..	..	..	..	..
1928–29	28.3	28.3	..	..	..	..
1931–32	..	24.4	..	..	..	..
1936–37	..	25.5	..	..	..	..
1941–42	..	31.9	..	..	..	..
1946–47	..	37.0	..	..	..	..
1951–52	..	37.0	..	..	..	..
1956–57	..	76.4	..	..	..	..
1960–61	..	92.5	..	..	..	..
1961–62	..	86.4	..	..	..	..
1962–63	..	87.4	..	..	..	..
1963–64	..	90.0	..	..	..	..
1964–65	..	91.3	..	..	..	..
1965–66	..	95.4	..	..	..	..
1966–67	..	98.4	94.1	94.7	..	..
1967–68	..	99.7	96.6	96.8	..	..
1968–69	..	100.0	100.0	100.0	100.0	100.0
1969–70	..	101.3	104.3	104.6	102.6	103.9
1970–71	..	..	108.8	109.4	100.1	108.5
1971–72	..	..	115.4	116.5	102.6	113.9
1972–73	..	..	123.3	122.1	113.9	120.7
1973–74	..	..	142.3	138.1	134.7	134.6
1974–75	..	..	172.5	169.7	145.1	158.1
1975–76	..	..	195.8	195.3	158.6	177.8
1976–77	..	..	219.1	218.1	182.2	196.9
1977–78	..	..	237.1	236.5	198.5	213.8
1978–79	..	..	252.2	253.9	248.8	237.4
1979–80	..	..	284.9	286.9	321.8	274.9
1980–81	..	..	323.6	323.9	353.2	305.2
1981–82	..	..	355.3	359.8	358.9	328.9
1982–83	..	..	389.0	400.6	388.0	360.2
1983–84	..	..	419.2	422.7	402.1	382.8
1984–85	..	..	452.4	446.2	422.2	404.8
1985–86	..	..	484.6	481.8	442.9	430.3
1986–87	..	..	512.7	519.0	445.0	458.5
1987–88	..	..	551.7	564.7	470.3	492.1

Price Index of Materials Used in House Building

The Price Index of Materials Used in House Building was first compiled on a reference base 1966–67 = 100.0, using a weighting pattern derived from estimated material usage in 1968–69. Monthly index numbers on a 1966–67 = 100.0 reference base are available for the period July 1966 to September 1986. A detailed description of the first series, including its composition and weighting pattern, is given in the September 1970 issue of the publication *Price Index of Materials Used in House Building* (6408.0) and in *Labour Report* No. 55, 1970.

The current Price Index of Materials Used in House Building for the six State capital cities, on a reference base 1985–86 = 100.0, was introduced in October 1986 and linked to the previous series. The items included, and their weights, were derived from reported values of each material used in selected representative houses constructed in 1985–86. The index for Canberra was introduced in respect of February 1988 on a reference base of 1986–87 = 100.0. Further information concerning the method of compiling the index, including details of its composition and weighting pattern, is given in the October 1986 and February 1988 issues of the publication *Price Index of Materials Used in House Building* (6408.0).

PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING
SIX STATE CAPITAL CITIES AND CANBERRA (a)
(Base of each index: *Year* 1985–86 = 100.0)

Year(b)	*Weighted average of six State capital cities*	*Sydney*	*Melbourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	*Canberra*
1982–83	81.0	78.2	82.2	79.0	82.5	76.7	80.2	n.a.
1983–84	86.0	85.8	88.7	85.4	87.9	83.1	86.5	n.a.
1984–85	93.1	93.3	94.6	92.7	93.4	92.5	93.4	n.a.
1985–86	100.0	100.0	100.0	100.0	100.0	100.0	100.0	n.a.
1986–87	105.8	106.2	105.7	104.6	105.1	106.7	105.0	100.0
1987–88	113.8	114.8	114.3	112.0	110.8	114.2	110.7	109.7

(a) The separate city indexes measure price movement within each city individually. They do not compare price levels between cities. *(b)* The index series for years prior to 1985–86 are based on the series previously published on a reference base 1966–67 = 100.0. They have been converted to reference base 1985–86 = 100.0 by linking the old and new series at September 1986.

Price Index of Materials Used in Building other than House Building

The Price Index of Materials Used in Building Other than House Building was first compiled on a reference base 1966–67 = 100.0, using a weighting pattern derived from estimated materials usage in 1966–67. Monthly index numbers on a 1966–67 = 100.0 reference base are available for the period July 1966 to January 1981. A description of the first series, including its composition and weighting pattern, is given in the publications *Price Index of Materials Used in Building Other than House Building*, January 1969 (6407.0) and *Labour Report* No. 54, 1969.

The current Price Index of Materials Used in Building Other than House Building for the six State capital cities was introduced in February 1981 on reference base 1979–80 = 100.0. The index for Darwin was published for the first time in September 1982 on a reference base1981–82 = 100.0. The index for Canberra was first published in respect of November 1987 on a reference base of 1986–87 = 100.0.

This index measures changes in prices of selected materials used in the construction of buildings other than houses. Its composition reflects the usage of materials in the construction of buildings (other than houses) commenced in the three years ending June 1977.

Further information concerning the method of compiling the index, including details of its composition and weighting pattern can be obtained from the February 1981, September 1982 and November 1987 issues of the publication *Price Index of Materials Used in Building Other than House Building* (6407.0).

The tables below show annual 'All groups' index numbers for each State capital city and Darwin and index numbers for selected building materials for the weighted average of six State capital cities. Monthly index numbers for selected materials and special combinations of materials are shown in each issue of the monthly price index publication *Price Index of Materials Used in Building Other than House Building* (6407.0).

PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING EIGHT CAPITAL CITIES (a)

	Weighted average of six State capital cities	*Sydney*	*Melbourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	*Darwin*	*Canberra*
Base year				1979–80 = 100.0					*(b)(c)*
1982–83	139.6	141.1	135.9	141.4	143.9	138.4	135.9	111.2	n.a.
1983–84	147.3	148.1	143.4	151.7	152.6	145.4	145.7	118.3	n.a.
1984–85	155.5	155.5	152.8	159.4	160.8	153.2	153.5	122.0	n.a.
1985–86	167.9	167.4	165.2	169.6	174.9	168.1	r167.2	131.1	n.a.
1986–87	180.9	181.0	177.8	179.7	187.9	183.9	177.9	139.6	100.0
1987–88	196.8	197.5	192.6	194.4	204.7	201.5	188.9	149.3	111.5

(a) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities. *(b)* 1981–1982 = 100.0. *(c)* 1986—87 = 100.0.

PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING INDEX NUMBERS FOR SELECTED BUILDING MATERIALS WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES

(Base of each index: *Year* 1979–80 = 100.0)

	Structural timber	*Clay bricks*	*Ready mixed concrete*	*Galvanised steel decking cladding and sheet products*	*Structural steel*	*Reinforcing steel bar fabric and mesh*
1982–83	133.8	142.6	143.3	138.7	138.8	138.9
1983–84	144.9	151.6	149.6	145.3	141.4	148.6
1984–85	160.6	162.9	158.6	150.8	147.6	148.2
1985–86	172.2	173.7	162.6	157.1	158.0	156.8
1986–87	178.6	183.0	167.7	166.8	170.9	165.8
1987–88	184.2	193.7	175.6	181.5	186.2	176.2

	Aluminium windows	*Conductors (mains cable and circuitry)*	*Lamps and light fittings*	*Non-ferrous pipes*	*Builders' hardware*	*Paint*
1982–83	136.2	135.2	137.8	106.0	143.9	149.5
1983–84	144.2	150.3	145.1	113.7	154.8	162.2
1984–85	152.7	171.9	151.0	122.1	163.8	177.0
1985–86	162.4	r197.0	164.0	134.5	182.2	189.3
1986–87	174.2	216.3	180.4	142.4	200.9	201.9
1987–88	192.1	301.3	193.5	183.3	214.7	208.9

Price Indexes of Materials Used in Manufacturing Industries

The Price Index of Materials Used in Manufacturing Industry was first compiled on a reference base 1968–69 = 100.0, using a weighting pattern derived from estimated manufacturing usage in 1971–72. Monthly index numbers on a 1968–69 = 100.0 reference base are available for the period July 1968 to November 1985. A description of the first series, including its composition and weighting pattern, is given in the April 1975 issue of the publication *Price Index of Materials Used in Manufacturing Industry* (6411.0).

The current Price Indexes of Materials Used in Manufacturing Industries were introduced in December 1985 on a reference base 1984–85 = 100.0. Details of their composition and weighting pattern are given in the December 1985 issue of the publication *Price Indexes of Materials Used in Manufacturing Industries* (6411.0). With a few exceptions the items included in the indexes were allocated weights in accordance with the estimated value of manufacturing usage in 1977–78.

These indexes measure changes in prices of materials (including fuels) used by establishments classified to the Manufacturing Division of the Australian Standard Industrial Classification 1983 (ASIC). The indexes are on a net 'sector' basis; that is, each relates only to those materials which are used in the defined sector of Australian manufacturing industry and which have been produced by establishments outside that sector. The following sector price indexes are published:

(i) a net index for the Manufacturing Division of ASIC; and

(ii) net indexes for ten sub-divisions and four groups within the Manufacturing Division.

In addition, indexes are published for selected categories of materials, some of which are presented below.

PRICE INDEXES OF MATERIALS USED IN MANUFACTURING INDUSTRIES (a): SELECTED CATEGORIES OF MATERIALS
(Base of each index: *Year* 1984–85 = 100.0) *(b)*

	Imported materials				*Home produced materials*				
	Agricultural	*Mining*	*Manufactured*	*Total imported materials*	*Agricultural, forestry and fishing*	*Mining*	*Electricity*	*Total home produced materials*	*All materials*
1982–83	81.9	94.7	87.5	90.2	90.6	95.8	92.3	92.8	91.9
1983–84	92.8	92.5	91.2	91.8	98.0	95.3	97.1	96.9	95.3
1984–85	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1985–86	117.3	91.5	117.7	111.8	100.6	101.4	102.9	101.2	104.9
1986–87	126.0	68.9	131.7	117.3	109.3	89.3	107.4	99.1	105.4
1987–88	106.5	67.9	136.4	120.0	118.3	96.3	112.3	106.8	111.4

(a) The index is on a net basis and relates in concept only to materials that enter Australian manufacturing industry from other sectors of the Australian economy or from overseas. *(b)* The index series for years prior to 1984–85 are based on the series previously published on reference base 1968–69 = 100.0. They have been converted to reference base 1984–85 = 100.0 by linking the old and new series in the year 1984–85.

Price Indexes of Articles Produced by Manufacturing Industry

These indexes measure changes in the prices of articles produced by establishments classified to the Manufacturing Division of the Australian Standard Industrial Classification (ASIC). Indexes are on a 'net basis', i.e. they relate in concept only to those articles which are produced in defined sectors of Australian manufacturing industry for sale or transfer to other sectors or for export or for use as capital equipment. Articles which are sold or transferred to other establishments within the sector for further processing as materials, components, fuels, etc. are excluded.

The following sector price indexes are published:

(i) a net index for the Manufacturing Division of ASIC (known as the *All Manufacturing Industry Index*); and

(ii) a net index for each of the twelve sub-divisions within the Manufacturing Division.

The reference base of the indexes is the year 1968–69 = 100.0. Their composition and weighting reflect estimated net sector production in the year 1971–72.

The items included in the indexes are combined for publication purposes using the structure of ASIC.

Further information concerning the method of compiling monthly index numbers for each index, including details of their composition and weighting, is shown in the June 1976 issue of the publication *Price Indexes of Articles Produced by Manufacturing Industry* (6412.0). Further information about the indexes is also shown in *Year Book* No. 62.

PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRY (a)
(Base of each index: *Year* 1968–69 = 100.0)

		Net subdivision indexes (b)					
Year	*All Manufacturing Industry Index (c)*	*Food, beverages and tobacco (21–22)*	*Textiles (23)*	*Clothing and footwear (24)*	*Wood, wood products and furniture (25)*	*Paper, paper products and printing (26)*	*Chemical, petroleum and coal products (27)*
1982–83	360.2	328.2	286.7	316.0	424.9	390.4	442.4
1983–84	382.8	355.5	305.8	333.2	455.4	413.6	456.8
1984–85	404.8	377.0	322.6	352.1	494.3	442.2	480.8
1985–86	430.3	399.1	348.2	376.7	530.4	472.4	499.9
1986–87	458.5	428.9	383.5	407.2	569.7	513.4	467.9
1987–88	492.1	454.5	436.6	434.3	609.6	549.3	496.5

Year	*Glass, clay and other non-metallic mineral products (28)*	*Basic metal products (29)*	*Fabricated metal products (31)*	*Transport equipment (32)*	*Other industrial machinery and equipment and household appliances (33)*	*Miscellaneous manufacturing products (34)*
1982–83	382.1	345.5	452.5	335.4	353.1	313.4
1983–84	404.0	365.5	480.1	358.9	372.6	342.1
1984–85	429.2	381.0	505.3	378.7	390.2	361.4
1985–86	449.8	396.4	534.4	417.5	417.6	388.1
1986–87	473.7	422.5	566.9	479.9	449.6	424.2
1987–88	504.5	471.9	597.8	528.0	484.5	466.2

(a) For a full description of Division C, 'Manufacturing' and the subdivisions within the Manufacturing Division, *see Australian Standard Industrial Classification (ASIC), Preliminary Edition*, 1969. *(b)* These indexes are on a net subdivision basis; the index for each subdivision relates in concept to articles which are produced in that subdivision for sale or transfer outside the subdivision. *(c)* This index is on a net division basis and relates in concept only to articles which are produced in the Manufacturing Division of ASIC for sale or transfer outside the Division.

FOREIGN TRADE PRICE INDEXES

Historical Perspective

Export Price Index

An index of export prices has been published by the ABS since 1901. The first index was compiled annually from 1901 to 1916–17 as a current weighted unit value index.

The method of calculation was changed in 1918 to incorporate fixed weights. Weights for all principal exports were calculated based on the average quantities of exports for the period January 1897 to June 1916. These weights were applied to the average unit values of each export in successive years, and a weighted average index of 'price' movements was derived. This index was published for the years 1897 to 1929–30.

An index of export prices was not published again until 1937 when two new series of monthly export price indexes were published, compiled back to 1928. One index used fixed weights and the other used changing weights. The most important methodological change introduced with these indexes was the use of actual export prices in place of unit values. The indexes were compiled until 1962.

The next index was introduced in August 1962 with index numbers compiled back to July 1959. This was a fixed weights index with reference base 1959–60 = 100.0. The weights were based on the average annual value of exports during the five years 1956–57 to 1960–61. By 1969–70 there had been a substantial shift in the relative importance of commodities exported and from July 1969 a new interim series was linked to this index, still with reference base 1959–60 = 100.0, but using weights based on the annual value of exports in 1969–70. Four new commodities—iron ore, bauxite, alumina and mineral sands were included. The interim index was published until June 1979 when it was replaced by the current Export Price Index .

Import Price Index

The first issue of the Import Price Index produced by the ABS was released in May 1983 with index numbers compiled from September quarter 1981 onwards, on a reference base 1981–82 = 100.0. This index replaced an import price index previously published by the Reserve Bank of Australia on a reference base 1966–67 = 100.0. The Reserve Bank's import price index was published from 1928 until September 1982.

A table giving a broad indication of long term price changes, drawing on the foreign trade price indexes available, is given below.

FOREIGN TRADE PRICE INDEXES
(Reference base: *Year* 1968–69 = 100)

Year	*Export Price Index (All Groups)*	*Import Price Index (All Groups)*	*Year*	*Export Price Index (All Groups)*	*Import Price Index (All Groups)*
1901	15	..	1970–71	99	108
1911	17	..	1971–72	102	114
1921–22	25	..	1972–73	131	113
1931–32	18	22	1973–74	157	131
1936–37	29	21	1974–75	177	189
1941–42	27	35	1975–76	193	214
1946–47	53	51	1976–77	216	246
1951–52	123	92	1977–78	227	278
1956–57	115	91	1978–79	256	307
1960–61	93	95	1979–80	309	403
1961–62	94	94	1980–81	328	450
1962–63	99	94	1981–82	332	458
1963–64	112	96	1982–83	360	506
1964–65	103	97	1983–84	369	524
1965–66	105	99	1984–85	396	580
1966–67	103	100	1985–86	417	659
1967–68	98	99	1986–87	431	731
1968–69	100	100			
1969–70	101	103			

Source: The sources used for the Import Price Index are the *Reserve Bank of Australia Bulletin* up to and including 1981–82, and the ABS *Import Price Index* (6414.0) thereafter.

Current indexes

The ABS compiles price indexes for merchandise imported into and exported from Australia. The Export Price Index is compiled and published monthly while the Import Price Index is compiled and published quarterly. Both indexes are calculated using fixed weights. Prices are collected from representative importers or exporters of the goods included in the indexes. Average monthly prices are used to compile the Export Price Index and average quarterly prices are used to compile the Import Price Index. Published index numbers for financial years are simple averages of the relevant monthly or quarterly index numbers. Annual index numbers for these indexes are shown below.

Import Price Index

The Import Price Index measures changes in prices of 'imports of merchandise' into Australia. The index numbers for each quarter relate to prices of imports landed in Australia during the quarter.

The commodities directly represented in the index were selected on the basis of their import values and were allocated weights in accordance with the average value of imports for each commodity over the three years ended June 1981.

The selected commodities are combined for publication purposes into broad index groups using three different classifications:

(i) *Australian Import Commodity Classification (AICC) 1980–81* (1204.0)

(ii) *Australian Standard Industrial Classification (ASIC) 1978* (1201.0)

(iii) *United Nations Classification by Broad Economic Categories (BEC) 1976*

In addition, BEC categories have been rearranged to form the broader end use classes: Capital goods, Intermediate goods and Consumption goods. Index numbers based on AICC and BEC are presented below.

Further information concerning the method of compiling the index, including details of its composition and weighting pattern, can be obtained from the December quarter 1982 issue of the publication *Import Price Index* (6414.0). More detailed index numbers are shown quarterly in this publication.

IMPORT PRICE INDEX: INDEX NUMBERS BASED ON THE AUSTRALIAN IMPORT COMMODITY CLASSIFICATION (AICC)
(Base of each index: *Year* 1981–82 = 100.0)

		AICC Sections								
Year	*All groups*	*Food and live animals chiefly for food (0)*	*Beverages and tobacco (1)*	*Crude materials inedible except fuels (2)*	*Mineral fuels lubricants and related materials (3)*	*Animal and vegetable oils fats and waxes (4)*	*Chemicals and related products n.e.s. (5)*	*Manufactured goods classfiied chiefly by material (6)*	*Machinery and transport equipment (7)*	*Miscellaneous manufactured articles and non-monetary gold (8 & 9 part)*
1984–85	126.5	139.2	139.8	121.0	117.4	146.5	115.4	127.4	130.2	130.9
1985–86	143.8	157.2	164.8	135.9	101.0	110.9	132.8	151.0	157.5	155.5
1986–87	159.6	178.8	189.4	148.0	69.3	99.8	145.6	169.4	191.4	177.8

IMPORT PRICE INDEX: INDEX NUMBERS FOR BROAD ECONOMIC CATEGORIES (BEC) AND END USE CLASSES

(Base of each index: *Year* 1981–82 = 100.0)

	Broad economic categories						*End use classes*		
Year	*Food and beverages*	*Industrial supplies n.e.s.*	*Fuels and lubricants*	*Capital goods (except transport equipment) and parts and accessories thereof*	*Transport equipment and parts and accessories thereof*	*Consumer goods n.e.s.*	*Capital goods*	*Intermediate goods*	*Consumption goods*
1985–86	152.5	142.3	101.0	152.7	171.2	150.9	154.9	134.9	154.0
1986–87	172.3	157.6	69.3	182.3	215.2	171.5	187.7	139.8	180.7
1987–88	160.3	163.3	75.1	181.5	218.4	171.8	187.7	143.2	182.2

Export Price Index

The current Export Price Index was introduced in July 1979. It relates to 'all exports of merchandise' from Australia. The index numbers for each month relate to prices of those exports of merchandise that are physically shipped from Australia during that month.

The reference base of the index is the year 1974–75 = 100. The commodities directly represented in the index were selected on the basis of their export values and were allocated weights in accordance with the average value of exports for each commodity over the three years ended June 1977.

The selected commodities are combined for publication purposes into broad index groups using two different classifications:

(iii) *Australian Export Commodity Classification (AECC) 1978–79* (1203.0)

(iv) *Australian Standard Industrial Classification (ASIC) 1978* (1201.0)

Further information concerning the method of compiling the index, including details of its composition and weighting pattern, can be obtained from the July 1979 issue of *Export Price Index* (6405.0). More detailed index numbers are shown monthly in this publication.

EXPORT PRICE INDEX: INDEX NUMBERS BASED ON AUSTRALIAN EXPORT COMMODITY CLASSIFICATION (AECC)

(Base of each index: *Year* 1974–75 = 100)

		AECC Sections				
Year	*All groups*	*Food and live animals (0)*	*Crude materials inedible (except fuels) (2)*	*Mineral fuels and lubricants (3)*	*Animal and vegetable oils and fats (4)*	*Chemicals and other manufactured exports (5, 6, 7 and 8)*
1982–83	203	152	242	287	138	191
1983–84	208	163	242	269	168	203
1984–85	223	171	264	288	211	216
1985–86	235	180	277	308	183	229
1986–87	243	185	296	280	160	249
1987–88	265	186	357	244	176	278

EXPORT PRICE INDEX: INDEX NUMBERS BASED ON AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION (ASIC)

(Base of each index: *Year* 1974–75 = 100)

	ASIC Divisions		
Year	*Agriculture, forestry, fishing and hunting (A)*	*Mining (B)*	*Manufacturing (C)*
1982–83	158	262	202
1983–84	169	244	212
1984–85	182	265	226
1985–86	184	290	237
1986–87	182	298	251
1987–88	240	267	277

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Export Price Index (6405.0)
Price Index of Materials Used in Building Other Than House Building (6407.0)
Price Index of Materials Used in House Building (6408.0)
Price Index of Copper Materials (6410.0)
Price Indexes of Materials Used in Manufacturing Industries (6411.0)
Price Indexes of Articles Produced by Manufacturing Industry (6412.0)
Import Price Index (6414.0)

20

HOUSING AND CONSTRUCTION

HOUSING

To own one's own home has long been the ultimate goal of most Australians.

While home ownership has obvious benefits for the owner, it is also beneficial to the government. Governments see an adequately housed population as being more politically and economically stable, healthy and productive. Additionally, a healthy housing construction industry provides substantial employment both within the industry and in associated sectors of the economy—notably in banking, the real estate industry and manufacturing. It is no accident that Australia has the highest rate of private home ownership per head of population in the world. This has come about as a result of a variety of government initiatives and policies since Federation.

The need for housing and construction statistics has developed with these initiatives to the point where Australia's statistics are quite comprehensive. Of course, user requirements change with government policy changes, and more and different data will always need to be developed.

The principal data are discussed below.

Census Dwellings

At each census of the population, in addition to the questions relating to personal particulars, there have been a number of questions relating to dwellings. A 'dwelling' is defined as any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or only part of a building, and includes, in addition to houses and self-contained flats, a great variety of dwellings ranging from a single-roomed shack to a multi-roomed hotel or institution. This section contains particulars of such information on dwellings as is available from the 1986 Census, together with information from earlier censuses.

Extensive information on dwellings obtained from censuses is available in the detailed tables of the publications issued for each individual census. A list of the 1986 Census publications is shown in the ABS *Catalogue of Publications, Australia* (1101.0). The most relevant 1986 Census publication is *Census 86—Summary Characteristics of Persons and Dwellings* (2479.0–2487.0). More detailed dwellings information is available on microfiche. Tables are listed in the *Catalogue of 1986 Census Tables* (2175.0).

Number of dwellings

The following table shows the number of occupied and unoccupied dwellings in Australia at each census from 1961 to 1986. Occupied dwellings are classified into 'private', 'caravans, etc. in caravan parks' and 'non-private' dwellings.

Private dwellings were classified by the census collector for the 1986 Census; collectors allocated each dwelling to one of the following categories:

Separate house
Semi-detached house
Row or terrace house
Medium density housing
Flat, unit in building, over three storeys
Caravan, tent, cabin, etc. in caravan park
Caravan not in caravan park, houseboat, etc.
Improvised home
House or flat attached to a shop, office, etc.

Caravans, etc. includes occupied caravans, tents, cabins, etc. in caravan parks and occupied boats in marinas. These dwellings were treated as separate households in the 1986 Census. Previously, each caravan park was treated as a non-private dwelling.

Non-private dwellings include hotels, motels, boarding houses and hostels, educational, religious and charitable institutions, hospitals, defence and penal establishments, staff barracks and quarters, etc.

An unoccupied dwelling is defined as a structure built specifically for private living purposes and which is habitable though unoccupied at the time of the census. The total number of unoccupied dwellings shown for any area does not represent the number of vacant dwellings available for sale or renting.

DWELLINGS (a): AUSTRALIA: CENSUS YEARS

	Occupied				
Census	*Private*	*Caravans etc.(b)*	*Non-private(b)*	*Total*	*Unoccupied*
1961	2,781,945	n.a.	35,325	2,817,270	194,114
1966	3,155,340	n.a.	33,917	3,189,257	263,873
1971	3,670,553	n.a.	24,006	3,694,559	339,057
1976	4,140,521	n.a.	21,543	4,162,064	431,200
1981	4,668,909	n.a.	22,516	4,691,425	469,742
1986	5,187,422	77,094	21,054	(c)5,208,476	543,539

(a) Excludes dwellings occupied solely by Aboriginals before 1966. *(b)* Prior to the 1986 Census, caravan parks were classified as non-private dwellings. Therefore, 1986 Census non-private dwelling counts are not comparable with previous censuses. *(c)* Excludes caravans, etc. in caravan parks.

The total number of occupied and unoccupied dwellings in each State and Territory at the Censuses of 1981 and 1986 were as follows:

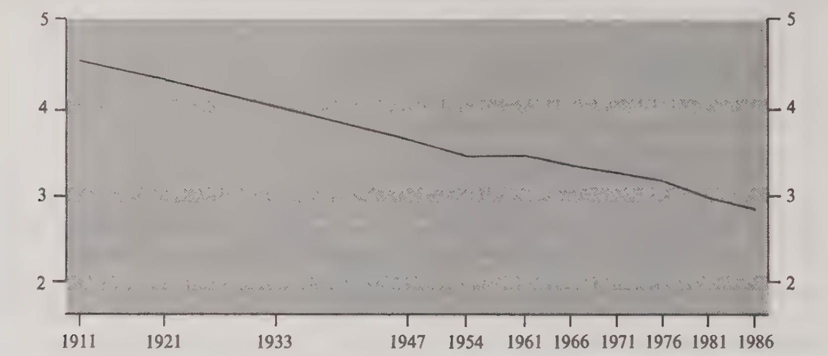
DWELLINGS, BY STATE: CENSUS YEARS

	Census 30 June 1981		*Census 30 June 1986*		
State or Territory	*Occupied(a)*	*Unoccupied*	*Occupied(a)(b)*	*Caravans,etc.(c)*	*Unoccupied*
New South Wales	1,669,594	153,251	1,817,392	21,916	174,467
Victoria	1,243,451	124,522	1,351,118	9,475	143,264
Queensland	703,964	83,366	838,122	27,310	94,714
South Australia	433,841	42,407	474,456	3,162	48,546
Western Australia	405,997	42,100	458,762	10,749	53,851
Tasmania	136,269	17,765	149,484	658	19,470
Northern Territory	29,563	2,368	39,779	3,456	3,639
Australian Capital Territory	68,740	3,963	79,363	368	5,588
Australia	**4,691,419**	**469,742**	**5,208,476**	**77,094**	**543,539**

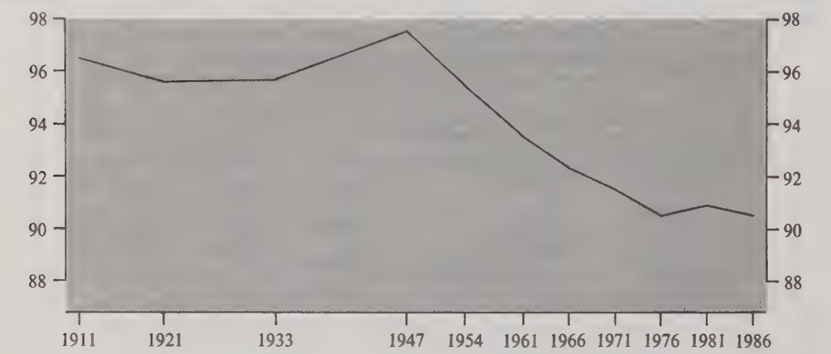
(a) Includes non-private dwellings. *(b)* Excludes caravans, etc. in caravan parks. *(c)* Includes occupied caravans, tents, cabins, etc., in caravan parks and occupied boats in marinas.

DWELLING STATISTICS AT CENSUS

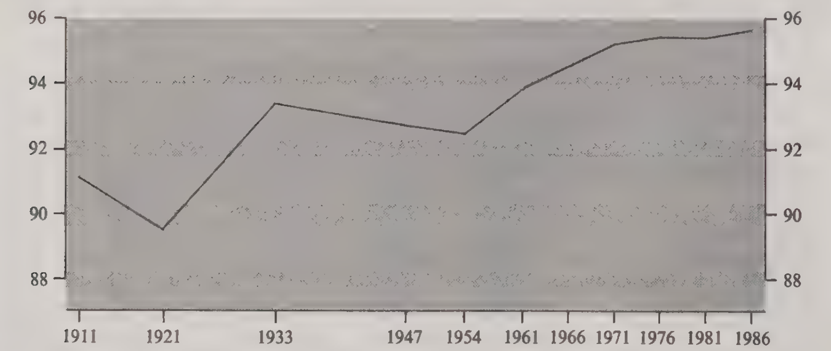
NUMBER OF PERSONS PER OCCUPIED PRIVATE DWELLING



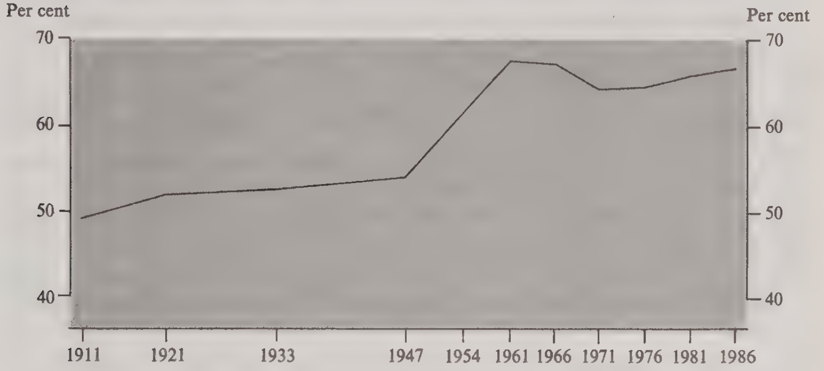
PRIVATE DWELLINGS OCCUPIED



PERSONS IN PRIVATE DWELLINGS



DWELLING STATISTICS AT CENSUSES
OCCUPIED PRIVATE DWELLINGS OWNED OR BEING PURCHASED



Commonwealth and State Government Housing Assistance

A range of assistance programs has been developed to target assistance to households in the owner-occupied, public housing and private rental housing sectors. The Government provides funds for public housing, supported accommodation services, crises accommodation, mortgage and rent relief, home purchase loans and home purchase subsidies to individuals and families.

The bulk of Commonwealth financial assistance for housing is provided through the First Home Owners Scheme (FHOS) and the Commonwealth–State Housing Agreement (CSHA).

First Home Owners Scheme

The First Home Owners Scheme was introduced on 1 October 1983. Applications for assistance under the *First Home Owners Act 1983* may be made by persons who contract to buy or build or who commence constructing their first home in Australia on or after 1 October 1983. There is no restriction on the marital status or age of the applicant. The home must be intended as the applicants' principal place of residence. At least one applicant must be an Australian citizen or must have the right to reside here permanently. Applicants cannot have owned a home in Australia previously, received assistance under the First Home Owners Scheme, or a grant under the Home Savings Grant Scheme or Home Deposit Assistance Scheme.

The income limits for a home acquired after 31 March 1987 are shown below.

INCOME LIMITS
($)

	Lower	*Upper*
Sole or joint applicants with two or more dependent children	26,000	34,000
Sole or joint applicants with one dependent child	25,000	33,000
Joint applicants without dependent children	23,000	31,000
Sole applicants without dependent children	11,500	15,500

The amount of assistance payable relates directly to the amount of taxable income of all the applicants. The income to be tested is, generally, the taxable income for the year before home acquisition. In certain circumstances income for the current financial year may be tested. New arrivals will be tested against income in the first full year as a taxpayer.

MAXIMUM ASSISTANCE AVAILABLE AND OPTIONS FOR HOMES ACQUIRED FROM 17 APRIL 1985 TO 25 MAY 1988

($)

Benefit options	*No dependants*	*One dependant*	*Two or more dependants*
Option 1—			
Subsidy only	4,000	5,500	6,000
Option 2—			
Subsidy	2,300	3,800	3,800
Lump Sum	1,200	1,200	1,700
Option 3—			
Subsidy	1,250	2,250	2,250
Lump Sum	2,000	2,500	3,000

MAXIMUM ASSISTANCE AVAILABLE AND OPTIONS FOR HOMES ACQUIRED SINCE 26 MAY 1988

($)

Benefit options	*No dependants*	*One dependant*	*Two or more dependants*
Option 1—			
Subsidy only	3,000	4,500	5,000
Option 2—			
Subsidy	n.a.	3,300	3,300
Lump sum		700	1,200
Option 3—			
Subsidy	n.a.	1,750	1,750
Lump sum		2,000	2,500

The subsidy is paid monthly, generally over five years, into an account with a financial institution. The lump sum is paid with the first monthly payment or, where requested, by early direct payment for deposit assistance or for settlement.

During the five year subsidy period applicants must confirm in writing each year that they continue to own and occupy the home. The subsidy will cease upon the sale of the home, but may recommence if a subsequent home is acquired within 12 months of the sale of the first home.

The following table sets out the operations of the scheme from 1 July 1987 to 30 June 1988.

FIRST HOME OWNERS SCHEME: OPERATIONS 1987–1988

State	*Number of applications*		*Amount of benefit approval ($'000)*	*Amount of benefit paid ($'000)*
	Received	*Approved*		
New South Wales	15,765	14,928	60,470	62,824
Victoria	13,505	11,679	44,984	52,107
Queensland	10,590	8,912	35,773	39,408
South Australia	5,135	4,575	17,487	19,144
Western Australia	9,140	7,945	31,446	32,972
Tasmania	1,880	1,872	7,179	7,675
Northern Territory	228	195	736	1,093
Australian Capital Territory	1,862	1,639	6,553	6,691
Australia	**58,105**	**51,745**	**204,628**	**221,914**

1984 Commonwealth–State Housing Agreement—CSHA

The 1984 CSHA came into operation on 1 July 1984 following the renegotiation of the 1981 Agreement. The Agreement is set to run for a 10 year period with triennial reviews. Financial assistance under the 1984 Agreement is to be provided as a combination of grants and loans with normally at least 75 per cent to be provided as grants. Since 1984–85, all assistance was provided as grants. Each State decides on the distribution of untied funds between home purchase and rental housing assistance and is required to match these funds on a dollar for dollar basis with funds provided from their own resources.

The Commonwealth guaranteed a minimum level of funding of $530 million in 1984–85 and $510 million for 1985–86 and 1986–87. The base level funding was increased to $700 million in 1987–88. The same amount was provided in 1988–89 and at least this amount will be provided in 1989–90. Total funding each year is determined in the Budget context. Total funding under the 1984 CSHA in 1988–89 is $700.0 million, comprising $530.6 million in 'untied' grants, $37.5 million for pensioners, $70.0 million for Aboriginals, $26.4 million for the Mortgage and Rent Relief Scheme, $19.5 million for the Crisis Accommodation Program and $16.0 million for the Local Government and Community Housing Program.

In addition to direct CSHA funding, since 1982–83 the States and the Northern Territory have been able to nominate further funds for public housing from their Loan Council allocations. In 1987–88 the States and Northern Territory nominated $414 million. In 1988–89 the amount available for nomination was reduced to $310.3 million however additional capital grants of $103.5 million were made available for public housing by the Commonwealth. Nominated Loan Council funds are provided subject to States matching the untied component of the CSHA ($350.6 million in 1988–89).

Under the nominated arrangements Loan Council funds nominated for public housing are made available at the highly concessional rate of 4.5 per cent per annum repayable over a 53 year period.

The Commonwealth Government is continuing to implement the major principles incorporated in the 1984 CSHA which focus on alleviating housing related poverty and achieving equitable distribution of housing assistance between tenures.

Home purchase assistance

Funds available under the CSHA for home purchase assistance comprise Commonwealth funds, revolving funds arising from the operation of previous home purchase programs and State funds. These funds are used principally to make loans to cooperative housing societies and approved State lending authorities for on-lending to home purchasers. Under the 1984 CSHA the annual interest rate charged by a State to societies and approved lending authorities is to be determined periodically by the Commonwealth and State Ministers with regard to the minimum Commonwealth Savings Bank market rate for housing loans. Eligibility conditions are set by each State, but loans can only be made to those who cannot obtain mortgage finance on the open market, or from other sources. Loan repayments are based on the borrower's income.

Rental housing assistance

Funds available to the States for the provision of public rental housing include federal funds, internally generated funds arising from the operation of housing programs, proceeds from the sale of rental housing, and State contributions. Under the 1984 Agreement, each State determines eligibility for rental housing subject only to the condition that all people are eligible for assistance but priority goes to those most in need. As required under the 1984 CSHA, State Housing Authorities have implemented a cost rent formula for setting rents. Cost rents reflect the cost of providing rental housing.

Each State determines its policy on sales of rental dwellings but all sales are to be at market value or replacement cost and on the basis of a cash transaction. Home purchase assistance funds can be used to finance the purchase of rental dwellings.

COMMONWEALTH–STATE HOUSING AGREEMENT: OUTCOMES FOR 1986–87

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Total*
Rental Housing Assistance—								
Commenced	5,114	1,682	786	1,636	842	520	518	11,098
Completed	3,982	1,877	1,223	2,396	1,043	568	596	11,685
Purchased	685	900	280	180	113	103	49	2,310
Sold	157	70	49	85	298	270	291	1,220
Total as at 30 June 1987	**108,084**	**53,902**	**29,791**	**58,884**	**31,661**	**13,061**	**8,791**	**304,174**
Households accommodated	12,176	9,254	6,203	6,444	8,087	1,872	3,013	47,049
Home Purchase Assistance—								
Loans approved for purchase	—	66	794	72	4	170	23	1,129
New	1,235	1,768	2,231	1,491	345	592	40	7,702
Other	910	336	624	571	241	51	19	2,752
Construction	557	85	—	614	798	—	367	2,421

COMMONWEALTH–STATE HOUSING AGREEMENT: DISTRIBUTION OF 1988–89 FEDERAL FUNDS (1987–88 FIGURES IN BRACKETS)

($'000)

State	*Rental Assistance for Untied*		*Rental Assistance for Pensioners*		*Mortgage and Aboriginals*		*Rent Relief*	
NSW	(184,439)	179,027	(14,517)	13,869	(12,345)	13,641	(8,817)	9,257
Vic.	(141,004)	135,989	(8,560)	8,794	(3,417)	3,417	(6,623)	6,949
Qld	(77,545)	79,428	(7,396)	7,382	(15,186)	19,000	(4,132)	4,418
SA	(57,468)	52,053	(2,614)	2,819	(5,595)	6,391	(2,182)	2,302
WA	(49,561)	48,502	(3,051)	3,268	(10,264)	12,121	(2,299)	2,471
Tas.	(23,222)	20,952	(839)	845	(696)	696	(710)	742
NT	(16,761)	14,649	(523)	523	(12,497)	14,734	(237)	261
Aust.	**(550,000)**	**530,600**	**(37,500)**	**37,500**	**(60,000)**	**70,000**	**(25,000)**	**26,400**

State	*Crisis Accommodation Program*		*Local Government and Community Housing Program*		*Total*	
NSW	(5,447)	6,835	(4,201)	5,596	(229,766)	228,225
Vic.	(4,092)	5,131	(3,156)	4,200	(166,852)	164,480
Qld	(2,553)	3,262	(1,969)	2,671	(108,781)	116,161
SA	(1,349)	1,700	(1,040)	1,391	(70,248)	66,656
WA	(1,420)	1,824	(1,095)	1,494	(67,690)	69,680
Tas.	(439)	548	(339)	448	(26,245)	24,231
NT	(200)	200	(200)	200	(30,418)	30,567
Aust.	**(15,500)**	**19,500**	**(12,000)**	**16,000**	**(700,000)**	**700,000**

Specific purpose programs

In addition to untied assistance used for the provision of home purchase assistance and general public rental housing, the CSHA provides funds for a number of specific purpose programs:

(a) *Rental Assistance for Pensioners* — provides rental housing assistance to pensioners and beneficiaries including age or invalid pensioners, widows and supporting parents.

(b) *Rental Assistance for Aboriginals* — since 1979–80 the Federal Government has provided separately identified funding to the States for rental housing assistance for Aboriginals through the CSHA. Between 1980 and 30 June 1987, 5,617 dwellings have been provided in the six States and the Northern Territory under this program. This includes the upgrading of existing dwellings.

(c) *Mortgage and Rent Relief Scheme* — provides assistance to households experiencing severe short term hardship in meeting private mortgage or rental payments. Rental assistance can also be used for bond money, relocation costs and housing advisory services.

(d) *Crisis Accommodation Program* (CAP) — provides crisis accommodation dwellings for youth, women and the chronically homeless. It operates in close conjunction with the Supported Accommodation Assistance Program (SAAP) which provides recurrent funding for the delivery of crisis accommodation services.

(e) *Local Government and Community Housing Program* — provides assistance to achieve the following objectives:

- encourage local government bodies and community groups to provide rental housing;
- facilitate greater tenant management of rental housing;
- respond to specific housing needs previously overlooked;
- attract local government and non-government funds and other resources into the program;
- involve local government and community groups in the identification of housing needs and the formulation of local housing policies.

Housing Loans Insurance Corporation

The Housing Loans Insurance Corporation is a government business enterprise which insures lenders (such as building societies, banks, etc.) against loss on housing and building loans.

From November 1965, when the Corporation commenced operations, until the end of June 1988, 860,000 loans to the value of $26,850 million had been insured.

Housing Agreement (Service Personnel)

State housing authorities build and upgrade dwellings for allocation to service personnel under agreed arrangements with the Commonwealth Government.

Dwellings no longer required for service personnel revert to State public housing stock. In 1987–88 some 151 dwellings were returned to the States for use as public rental housing. $1.99 million was spent on the provision and upgrading of dwellings.

Following the 1984 Task Force Review on Housing for Service Personnel, the Government announced on 30 January 1986 several initiatives to improve the quality of service housing, including the establishment of a Defence Housing Authority and renegotiation of the CSHA(s). The Defence Housing Authority formally began operations on 1 January 1988 and renegotiation of the CSHA(s) is likely to be completed in 1988–89.

Defence Service Homes (DSH) Scheme

Housing Assistance Program

The DSH Scheme provides housing related benefits to those who qualify through war or defence service. Benefits include a long-term, low-interest housing loan at concessional rates of interest and low-cost homeowners' insurance cover.

On 1 December 1988, the Westpac Banking Corporation bought responsibility for the existing mortgage portfolio, the insurance business and the running of the DSH scheme. The legislation allowing for this asset sale was passed by Parliament during November 1988.

Lending Sub-program

Since the inception of the DSH Scheme in 1919, 431,677 eligible people have been assisted to acquire homes. The maximum DSH loan now is $25,000 and is available over a maximum term of 25 years at an effective interest rate of 6.85 per cent per annum.

DEFENCE SERVICE HOMES ACT: NUMBER OF LOANS GRANTED

Year	*Construction of homes*	*Purchase of new homes*	*Purchase of previously occupied homes*	*Enlargement of existing homes*	*Total*
1982–83	2,345	419	3,568	225	6,557
1983–84	1,998	254	3,058	220	5,530
1984–85	2,201	266	3,226	216	5,909
1985–86	1,926	275	2,837	229	5,267
1986–87	1,858	284	2,833	227	5,202
1987–88	1,887	263	3,088	263	5,501

DEFENCE SERVICE HOMES ACT: STATE SUMMARY OF OPERATIONS

Year	*NSW(a)*	*Vic.*	*Qld(b)*	*SA(c)*	*WA*	*Tas.*	*ACT*	*Aust.*
NUMBER OF LOANS GRANTED								
1982–83	1,576	1,484	1,447	687	808	185	370	6,557
1983–84	1,222	1,264	1,215	580	770	177	302	5,530
1984–85	1,372	1,266	1,249	580	944	228	270	5,909
1985–86	1,344	1,032	1,192	474	830	155	240	5,267
1986–87	1,357	945	1,299	454	740	124	283	5,202
1987–88	1,440	956	1,369	499	820	149	268	5,501
CAPITAL EXPENDITURE ($'000)								
1982–83	36,677	33,939	34,416	15,500	18,877	4,001	9,067	152,477
1983–84	28,218	29,133	28,321	13,213	18,487	4,078	7,336	128,786
1984–85	31,841	29,169	29,860	13,423	21,821	4,937	6,511	137,562
1985–86	31,801	24,998	28,598	11,855	19,351	3,498	5,871	125,972
1986–87	32,081	22,353	31,652	10,968	17,029	2,880	6,489	123,452
1987–88	33,474	23,483	31,798	11,818	19,241	3,428	6,310	129,552
LOAN REPAYMENTS ($'000)								
1982–83	27,951	22,084	13,191	8,032	8,017	1,772	*(d)*	81,047
1983–84	33,837	25,856	16,433	9,936	10,322	2,575	*(d)*	98,959
1984–85	37,247	29,721	18,224	11,144	12,679	3,202	*(d)*	112,217
1985–86	30,336	24,800	14,906	8,563	9,910	2,670	*(d)*	91,185
1986–87	30,315	25,723	14,305	8,334	11,323	2,536	*(d)*	92,536
1987–88	39,579	28,183	22,814	9,188	14,979	2,532	*(d)*	117,275
NUMBER OF LOAN ACCOUNTS AT 30 JUNE								
1983	55,949	44,473	25,476	14,649	16,246	3,856	*(d)*	160,649
1984	54,114	42,738	25,198	14,181	15,990	3,761	*(d)*	155,982
1985	52,106	40,943	24,873	13,709	15,660	3,694	*(d)*	150,985
1986	46,412	39,259	24,710	13,315	15,521	3,607	3,796	146,620
1987	44,777	37,530	24,700	12,990	15,071	3,484	3,860	142,412
1988	42,515	35,633	24,186	12,582	14,508	3,392	3,791	136,607

(a) Includes Norfolk Island. *(b)* Includes Papua New Guinea. *(c)* Includes Northern Territory. *(d)* Included in New South Wales.

Insurance sub-program

The DSH Insurance Scheme is run as a cooperative, requiring no budget outlay. DSH insurance is available to the owners of homes on which the DSH Corporation has made or will make a loan. Insurance with the Corporation may be continued after repayment of the loan as long as the insured keeps the home. Premiums are below those generally available elsewhere, and 99 per cent of those eligible to take out DSH insurance do so.

Average sum insured at 30 June 1988	$77,452
Total sums insured at 30 June 1988 ($ million)	13,864
Number of homes insured at 30 June 1988	179,006
Claims paid 1987–88 — Number	21,922
— Amount	$7,298,375

State housing authorities

The following paragraphs describe briefly the organisation of the various State housing authorities and their activities in the fields of home construction and provision of homes on a rental basis.

New South Wales—Department of Housing

The Department came into being with the enactment of the *Housing Act 1985* on 1 January 1986, which enabled the amalgamation of the Housing and Land Commissions of New South Wales and various housing related divisions of other departments. The Department's structure reflects a more objective and integrated approach to the provision of secure, appropriate and affordable housing to all sections of the community with housing needs.

Advances from the Commonwealth Government have provided most of the Department's capital funds and by 30 June 1987 the balance outstanding was $1,110,584,000. Other net funds of the Department at 30 June 1987 comprised: repayable advances from the State, $543,321,000; public loans raised by the Department, $371,287,000; grants from the Commonwealth Government, $986,461,000; grants from the State, $24,787,000; and accumulated surplus, $123,587,000. In addition, the Department owed $74,910,000 to creditors, mainly for purchase of land and work-in-progress. These funds were represented by fixed assets, $3,200,409,000 (including $114,109,000 owed by purchasers of homes); and current assets, $114,679,000. In 1986–87, the Department's income was $301,761,000 (including rent, $258,200,000 and interest, $14,717,000); expenditure was $346,091,000 (interest, $92,415,000).

The permanent dwellings provided by the Department have been erected under the Commonwealth–State Housing Agreements or from State loans and grants. In 1986–87, 4,551 dwellings were purchased or completed for the Department.

Upon request by other State departments, the Department will erect houses for employees of those departments, the departments providing the necessary lands and funds. In addition, the Department erects (with State funds) dwellings for employees of industries connected with decentralisation and development. Specially designed units are erected by the Department to provide dwellings for elderly persons at rentals within their means.

Victoria—Ministry of Housing

The Ministry's key objectives are to:

- facilitate the continuing access of all Victorians to affordable, adequate and appropriate housing;
- deliver housing assistance programs in an effective, efficient and equitable manner.

Thus, the Ministry is not only involved in the provision of public rental accommodation but also in the provision of assistance to private tenants and existing and potential homeowners. The Ministry also cooperates with community groups in the provision of emergency housing, and programs to assist the homeless are currently under development.

During 1987–88 a total of 3,105 public rental units were built or purchased, using funds provided under the Commonwealth–State Housing Agreement, State funds and Ministry funds. The Ministry's public rental stock was 56,900 as at 30 June 1988 of which 36,600 (or 64 per cent) were located in the metropolitan area. Households on reduced rents (rebates) totalled 42,586 at this date, representing 78 per cent of all tenants.

The Ministry also provides assistance to households renting in the private sector. Under the Bond and Relocation Scheme, the Ministry provides financial assistance to individuals or households in the private rental market by making funds available for security deposits (bonds), rent-in-advance and removal expenses. Individual single applicants may receive a maximum loan of $300 and families or groups may receive up to $500. During 1987–88 some 10,514 households received assistance under this scheme, at an average level of assistance of $471 per household.

Queensland—Queensland Housing Commission

During 1987–88 the Commission provided 5,337 dwelling units, bringing the total number under all schemes since the revival of housing construction in 1944–45 to 94,346. Of this number, 61,019 houses, or 64.7 per cent, were for home ownership, and 33,327, or 35.3 per cent, were for rental.

In the field of rental housing, the Commission administers, and acts as the constructing authority under, the Commonwealth–State Housing Agreements and States Grants (Housing) legislation. Operating under the provisions of the *State Housing Act 1945–1986*, the Commission, through its scheme of mortgage finance, makes advances for the construction of dwellings to eligible persons who own a suitable building site or to purchase a house and land package. The number of dwellings completed during 1987–88 under this scheme amounted to 3,521, making a total of 59,211 completions since the inception of the scheme. The Commission also has power to make advances, secured by mortgage, to firms for housing of employees. The Commission has power to sell houses under contract of sale conditions. Contract of sale agreements were made to purchase 117 of the Commission's houses during 1987–88.

South Australia—South Australian Housing Trust

The primary role of the Trust is to provide housing for those in need, and within their capacity to pay. The Trust aims to provide housing which is appropriate for the householders' needs, is of an acceptable and modern standard and is integrated within the surrounding environment.

The Trust also provides assistance to tenants renting privately through:

- the administration of the Rent Relief Scheme;
- its management responsibility for the Emergency Housing Office;
- exercising its responsibilities under the Housing Improvements Act.

It also assists home owners in financial crisis through the Mortgage Relief Scheme.

The Trust has a separate responsibility to government to act as the State's industrial property authority, to provide industrial premises for approved additions to or extensions of industrial facilities within the State.

A total of 110,072 dwellings have been built, purchased or leased by the Trust since 1936.

Western Australia—State Housing Commission of Western Australia

The State Housing Commission, trading as Homeswest, constructs a variety of dwelling types for its rental and purchase programs. In addition, it constructs housing for other government departments (both Commonwealth and State Government, and semi- and local government authorities) and constructs and maintains houses for the Government Employees' Housing Authority.

At 30 June 1988, the Commission had provided under all schemes since 30 June 1944 a total of 80,403 units of accommodation throughout the State (including 12,046 units completed under the *Defence Services Homes Act 1918*).

During the twelve months ended 30 June 1988, 1,115 units of accommodation were provided: 667 in the metropolitan area, 241 in country areas and 207 north of the 26th parallel.

Building societies are a major source of housing finance in Western Australia. At 30 June 1988, it was estimated that the assets of permanent and terminating societies were about $1,966 million. Currently, 7 permanent and 180 terminating societies are operating.

Tasmania—Housing Tasmania

Housing Tasmania is responsible for administering the portion of the *Homes Act 1935* relating to the acquisition and development of land for housing purposes, and the erection of homes for rental and sale to those deemed in need of assistance.

During 1987–88, dwelling completions numbered 539. The total number of dwellings constructed to 30 June 1988 was 24,389 of which 8,822 have either been sold or demolished.

The number of properties purchased numbered 1,489, making a total dwelling stock of 17,056. Of these 11,643 are detached or semi-detached, 2,470 are elderly persons' units, 424 are multi-unit flats, 2,490 are villa units, and 29 are movable units.

Dwellings are allotted on a rental or purchase basis. Rental is now assessed at a proportion of household income. Tenants are able to buy their home if they wish.

Housing Schemes in Australian Territories

Northern Territory

The Northern Territory Housing Commission was established in 1959 and currently operates under authority of the *Housing Act 1982*. For administration purposes only, the Commission was amalgamated with other bodies to form the Department of Lands and Housing on 19 March 1987. However, the Commission still retains its autonomy under a single Commissioner.

Australian Capital Territory

The ACT Housing Trust provides houses, flats and aged persons' units for rental to persons on low incomes who live or are employed in the Australian Capital Territory. At 30 June 1988, the ACT Housing Trust controlled 7,645 houses and 4,071 flats (including aged persons' units) for rental purposes. Public rental houses are currently not available for purchase by tenants, but this policy is under review.

Summary of rental activities of government authorities

GOVERNMENT HOUSING AUTHORITIES: REVENUE FROM RENTALS
($'000)

Year	*NSW*	*Vic.(a)*	*Qld*	*SA*	*WA(b)*	*Tas.*	*NT(b)*	*ACT*	*Aust.*
				r					r
1982–83	188,317	74,343	55,865	77,201	40,475	25,149	18,712	37,780	517,842
1983–84	200,371	86,299	59,675	86,136	44,108	28,178	19,899	35,794	560,460
1984–85	218,820	96,175	66,946	95,548	45,945	30,386	22,727	28,090	604,637
1985–86	238,598	109,103	72,036	102,242	49,292	36,033	26,454	33,764	667,522
1986–87	258,200	117,958	78,898	117,788	53,920	40,776	30,074	38,548	736,162
1987–88	298,648	135,744	84,042	140,219	60,746	49,629	33,068	31,475	833,571

(a) Prior to 1983–84 figures relate to Housing Commission only and thereafter to the Ministry of Housing. *(b)* Figures relate to Housing Commission only.

GOVERNMENT HOUSING AUTHORITIES: NUMBER OF TENANTS PAYING RENT

Year	*NSW*	*Vic.(a)*	*Qld*	*SA*	*WA(b)*	*Tas.(c)*	*NT(c)*	*ACT(c)*	*Aust.*
1982–83	97,286	45,806	25,421	48,466	28,656	10,996	7,167	9,638	273,436
1983–84	99,979	49,026	26,890	50,914	28,934	11,736	7,497	9,849	284,825
1984–85	100,098	51,642	28,393	53,281	30,178	12,437	7,878	10,005	293,912
1985–86	104,410	54,665	29,793	56,028	31,484	12,633	8,623	10,574	308,210
1986–87	133,826	57,300	31,628	58,884	32,270	12,911	8,830	11,028	346,677
1987–88	109,958	60,300	34,050	60,655	32,912	13,305	9,276	11,326	331,782

(a) Prior to 1983–84 figures relate to Housing Commission only and thereafter to Ministry of Housing. *(b)* Figures relate to Housing Commission only. *(c)* Number of occupied dwellings at 30 June.

Advances to Home Purchasers

Many prospective home purchasers wish to borrow for the purpose of constructing or purchasing their own homes. Usually the loan is covered by way of mortgage of the home to be constructed or bought. Such loans are provided from a number of private sources and from agencies owned or guaranteed by the Commonwealth or State Governments. The information in this section concerns the direct loans made to home purchasers by the more important institutional lenders. Loans to institutions which in turn lend moneys to home purchasers and loans to contract builders, etc., are excluded as far as possible. The loans may be for the construction of new dwellings, the purchase of existing dwellings, for additions, renovations, etc., as first or subsequent mortgages, overdrafts and so on. While figures of all loans to home purchasers are not available, the institutions mentioned account for a significant proportion of total loans. Details of the terms and conditions of lending are given, together with available information on the number and value of loans made.

State and Territory authorities and agencies

New South Wales—State Bank of New South Wales

The State Bank of New South Wales, by arrangement with the New South Wales Government, administers funds provided in respect of agency schemes under which finance is made available to individuals for erection or purchase of homes and for other approved purposes associated with homes.

The Housing Society Agency administers advances made to cooperative housing societies and the State Bank (as the approved government lending institution of the State) from funds allocated to the State under Commonwealth–State Housing Agreements and Arrangements. Borrowers pay interest on the advances made prior to 1 July 1985 at rates ranging from 5 per cent per annum to rates which increase annually until they are 1 per cent per annum below the then current Commonwealth Savings Bank rate for housing loans. Changes brought about by the *Housing Assistance Act 1984* require borrowers to pay interest at the rate of 11.25 per cent per annum on advances made from 1 July 1985, but for low income earners a rebate of interest is allowed. Repayments by borrowers range from 20 to 30 per cent of income.

Particulars of advances by the Agency during the last six years appear in the following table.

AGENCY ADVANCES
($'000)

Year ended 30 June	*Advances during year*	*Total advances to end of year*	*Principal repaid during year*	*Advances outstanding at end of year*
1982	50,615	718,940	27,702	396,865
1983	37,565	756,505	27,976	406,500
1984	78,265	834,770	40,487	444,423
1985	63,027	897,797	45,781	461,710
1986	72,146	969,943	40,316	490,794
1987	106,308	1,076,251	48,419	548,683

Stamp Duty Deferred Payment Scheme

In 1976 the State Government introduced a scheme by which first home buyers may be eligible for a deferment of the amount of stamp duty payable on their first home. The Stamp Duties Office determines, on behalf of the Treasury, the eligibility of applicants and properties and, if acceptable, approves of an advance being made for payment of stamp duty in accordance with the scheme. Applicants repay the advance through the State Bank over a period of five years by equal annual instalments. The advances are free of interest provided instalments are paid by the due date. To 30 June 1987, 203,154 applicants had taken advantage of the Deferred Payment Scheme to the extent of $172.4 million. Balances outstanding as at 30 June 1987 totalled $61.4 million in respect of 99,796 accounts.

State Second Mortgage Loan Scheme

On 1 July 1981 the New South Wales Government introduced the State Second Mortgage Loan Scheme to provide second mortgages to assist eligible low to moderate income earning families to acquire their home. The interest rate charged is 12 per cent per annum or the notional rate payable on the first mortgage, whichever is the higher, and remains fixed for the term of the loan. The maximum loan is $15,000 and loans are payable over 10 years. The scheme is financed from funds made available by various government instrumentalities and is administered by the State Bank of New South Wales. From the inception of the scheme to 30 June 1987, 7,606 loans for $71.1 million were approved.

State Bank of New South Wales—other loans

The State Bank of New South Wales provides assistance to individuals for the erection or purchase of homes and for other approved purposes associated with homes. Advances are based on the bank's official valuation of the dwelling. The rate of interest on new long term loans for housing purposes as at July 1988 was 13.5 per cent per annum.

Victoria—Ministry of Housing

Home purchase loans granted totalled 2,243 over 1987–88, of which 574 were provided through the cooperative housing societies. The loans were provided through several schemes: Capital Indexed Loans (CAPIL)—1,211 loans; Indexed Repayment Loans—897 loans and Home Ownership for the Over Fifties—135 loans.

CAPIL is the Ministry's standard lending instrument. Repayments are fixed at 25 per cent of an eligible household's income with the interest rate tied to the annual rate of inflation to provide a real rate of return of 3 per cent per annum. The second loan type (Indexed Repayment Loan) is a joint venture between the Ministry and four leading banks. The scheme provides for a two part loan arrangement, with a first mortgage being held by the banks and the second mortgage with the Ministry. The first mortgage is over a fixed 25 year term with a variable interest rate set by the bank. The borrower pays the Ministry repayments set at 25 per cent of income and the Ministry pays the full instalment to the bank. The shortfall on the repayments made to the Ministry is secured under the second mortgage with an interest rate geared to the Consumer Price Index. When the first mortgage is paid out repayments continue until the Ministry's second mortgage is discharged.

From 2 March 1988, the new Home Opportunity Loans program was established in conjunction with the National Mortgage Market Corporation and the Estate Agents Board and is funded through the establishment of the Victorian Housing Bonds scheme. This program is designed to assist households who cannot afford conventional loans and may otherwise be trapped in the private rental sector. It is expected to allow up to 3,000 low-income and moderately low-income families to gain access to housing finance, with 1,500 of the loans being available to families with incomes as low as $290 per week.

Commission loan schemes are available to non-home owners to purchase or construct a home they intend to reside in. The schemes are:

Interest Subsidy Scheme —
This Scheme assists low income earners by subsidising interest charges and providing an affordable monthly payment at 25 per cent of gross income, adjusted whenever income changes. Most borrowers under this Scheme would not have the capacity to obtain finance from other lenders.

Second Loan Scheme —
May be available to borrowers eligible for an Interest Subsidy Loan and who are also eligible for the Commonwealth First Home Owners Scheme. This loan assists to bridge the deposit gap.

Flexible Term Loan —
This loan is intended as an alternative source of finance for borrowers not eligible for the Interest Subsidy Scheme or for those with sufficient income or savings to not need the protection of an Interest Subsidy Loan. 'Slow' and 'Quick' start options are offered with several term options also available.

Commercial Scheme —
Provides loans at commercial rates for borrowers unable to obtain funds from other sources.

South Australia—South Australia Housing Trust
The Trust administers the Rental Purchase Scheme in conjunction with the State Bank. This scheme supersedes the Low Deposit Purchase Scheme in assisting low income people in purchasing a home through a nominal deposit and low interest loan.

In September 1986, the Trust initiated the Home Trust Shared Ownership Scheme whereby tenants can purchase their home in affordable stages commencing with a 25 per cent share.

Western Australia—State Housing Commission of Western Australia
The commission administers four schemes to assist applicants achieve home ownership. These schemes are known as First Mortgage, Flexible Deposit, Shared Equity and Senior Citizens Loan Schemes. The maximum interest rate is maintained in relationship with the Commonwealth Bank interest mortgage rate and the repayment of the loan is on an income geared basis with an applicant not being expected to pay more than 25 per cent of assessed family income in repayments. The maximum repayment period is 30 years.

Under the schemes, the applicants are able to select an established home or build a new home of their choice. The maximum income limits vary with the location. A family with one child can have a maximum weekly income of $392.50 in the metropolitan area, $507.90 in remote areas and $554.10 in the Kimberley region. These limits increase by $22 for each additional child after the first, and $28 for each additional child beyond the third.

Under the First Mortgage, Flexible Deposit and Shared Equity Schemes, the maximum value of house and land in the metropolitan area is $47,000 if buying an established home or if building a new home. In non-metropolitan areas, the maximum value varies from $49,000 in country areas to $89,000 in the Kimberley region. Minimum deposit required is usually 5 per cent of valuation, although with the Flexible Deposit Scheme as little as $500 can be paid as the deposit on a home.

The Shared Equity Scheme was designed to help people on very low incomes into home ownership. Homewest purchases the home on behalf of the applicant and funds the applicant to an equity share of not less than 60 per cent of the home value. Normally 5 per cent of the loan sought is required for the deposit but this can be reduced to as little as $500. All maintenance, insurance and rates are shared in accordance with the applicants' equity share.

Assistance through Terminating Building Societies is available to eligible applicants from the Loans Priority List under first mortgage conditions. Funds are not available for second mortgages. The interest rate on advances is 13.5 per cent and the maximum term is for 30 years. In the metropolitan area, the maximum income limit is $392.50 per week plus an extra $22 per week for each dependent child, and $28 for each additional child beyond the third. The value of house and land cannot exceed $47,000 and a 5 to 10 per cent deposit is required. In other areas around the State, maximum income limits vary between $392.50 in country areas and $554.10 in the Kimberley region and the maximum value of house and land varies from $49,000 in country areas to $89,000 in the Kimberley region.

Tasmanian Development Authority

The Authority is responsible for the administration of funds made under the Home Purchase Assistance section of the *Housing Assistance Act 1984*. The State has also provided State loan funds for lending under the Homes Act.

The primary principle of the Housing Assistance Act is to ensure that every person in Australia has access to adequate and appropriate housing at a price within his or her capacity to pay.

The Authority has a Deferred Interest Subsidy Scheme, whereby low income earners can borrow sufficient amounts to enable them to purchase a reasonable dwelling. The current rate of interest is 13.5 per cent with monthly repayments based on 25 per cent of joint gross monthly income. When the repayment is not sufficient to meet the interest charged on the loan, the balance is deferred and repaid in the later years of the loan. There is no interest charged on the deferred proportion of the loan.

The Authority has a Home Ownership Building Industry Scheme (HOBIS) whereby private builders are requested to tender for the construction of homes throughout the State for low to moderate income earners who could not otherwise afford to purchase a new home.

TASMANIAN DEVELOPMENT AUTHORITY, ADVANCES FOR HOUSING (a)

Particulars	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Advances approved—						
Number	450	624	537	815	624	704
Value ($'000)	12,665	18,030	17,437	28,390	24,790	29,423
Advances outstanding at 30 June ($'000)	71,020	83,081	90,338	106,000	114,606	126,263

(a) Excludes advances to cooperative housing societies.

Northern Territory—Loans Scheme

The Northern Territory Home Purchase Assistance Scheme is based on the principles set out in the Commonwealth–State Housing Agreement.

The Scheme provides for a maximum loan of $50,000 to lower income groups. As the gross weekly income of the highest earner increases, the amount of the Commission loan decreases. There is a requirement that a prescribed amount be borrowed from a private lending institution for the higher income group.

Repayments on the loan are based on 20 per cent of gross family income and reviewed annually. Where the repayment is insufficient to cover interest due, the unpaid amount is allowed to accumulate free of additonal charges.

The interest rate currently charged is 13.5 per cent and the Commonwealth Savings Bank Home Loan rate will be an indicator for future interest rates. The maximum term of the loan is 45 years.

To be eligible to apply, applicants must not own a home elsewhere in Australia, have resided in the Territory for the six months prior to application and property value must not exceed $100,000. Loans can be on a first or second mortgage basis.

Northern Territory—Sales Scheme
A scheme exists to allow eligible tenants of the Northern Territory Housing Commission dwellings to purchase dwellings under the General Public Sales Scheme. Sales are on a cash basis only to approved tenants.

Australian Capital Territory
The Commissioner for Housing operates an income-geared loan scheme to assist people who are generally unable to afford finance in the private market. Loans to a maximum of $60,000 over a maximum term of 30 years are available for the purchase or erection of dwellings in the Australian Capital Territory. The exact amount of loan granted and term of the loan are determined by the applicant's level of income and assets and the value of the property to be purchased. To qualify for a loan an applicant must:

- be a permanent resident of Australia and have lived or worked in the Australian Capital Territory for at least six months prior to loan approval;
- not have any interest whatsoever in real property located in the Australian Capital Territory or Queanbeyan other than the dwelling or the land upon which it is proposed to erect the dwelling;
- not previously have received government financial assistance in the form of a loan for the purchase or construction of a dwelling in the Australian Capital Territory or Queanbeyan.

Interest rates for new loans are aligned with the Commonwealth Savings Bank new home loans rate. Instalment repayments are geared to the applicant committing 25 per cent of income to total mortgage payments and instalment subsidies are repaid over the term of the loan or upon discharge. At 30 June 1988, 7,811 properties were under mortgage to the Commissioner for Housing. The Commissioner also administers 5,563 Commonwealth of Australia mortgages.

CONSTRUCTION

Building

Building activity is a significant indicator of the level of economic activity. In addition, the level of building activity and the types of buildings being constructed affect the Australian physical and social environment. Building approvals statistics give an indication of the potential future level of investment of private individuals, companies and government agencies in approved building construction. Building activity statistics show the level of actual building construction activity in terms of the level of commencements and completions, building jobs under construction and the value of work done and yet to be done on building jobs.

Number of new houses

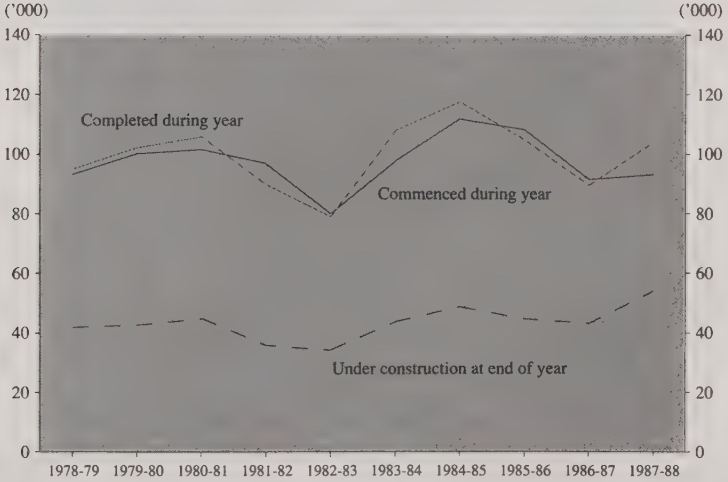
The following table provides a summary of the number of new houses approved, commenced, under construction and completed by type of ownership in each State and Territory for the year 1987–88.

NUMBER OF NEW HOUSES, 1987–88
('000)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Private Sector—									
Approved	32.6	28.5	24.8	6.3	16.3	2.4	0.5	1.6	113.1
Commenced	27.3	26.4	22.5	5.7	13.9	2.2	0.4	1.6	100.0
Under construction*(a)*	17.4	15.4	7.6	2.3	6.6	1.7	0.2	0.8	51.9
Completed	21.6	26.2	18.9	5.5	11.8	2.1	0.4	1.4	87.8
Public Sector—									
Approved	0.6	1.3	0.8	0.6	0.7	0.3	0.3	0.1	4.6
Commenced	0.4	1.1	0.7	0.7	0.7	0.3	0.4	0.1	4.4
Under construction*(a)*	0.4	0.5	0.3	0.3	0.2	0.1	0.4	0.1	2.3
Completed	0.7	1.5	0.5	0.8	0.6	0.3	0.3	0.1	4.8
Total—									
Approved	33.2	29.9	25.6	6.9	17.0	2.7	0.8	1.7	117.7
Commenced	27.7	27.4	23.3	6.4	14.6	2.5	0.8	1.7	104.5
Under construction*(a)*	17.8	15.9	7.9	2.6	6.8	1.8	0.7	0.8	54.2
Completed	22.2	27.7	19.4	6.3	12.4	2.5	0.7	1.5	92.6

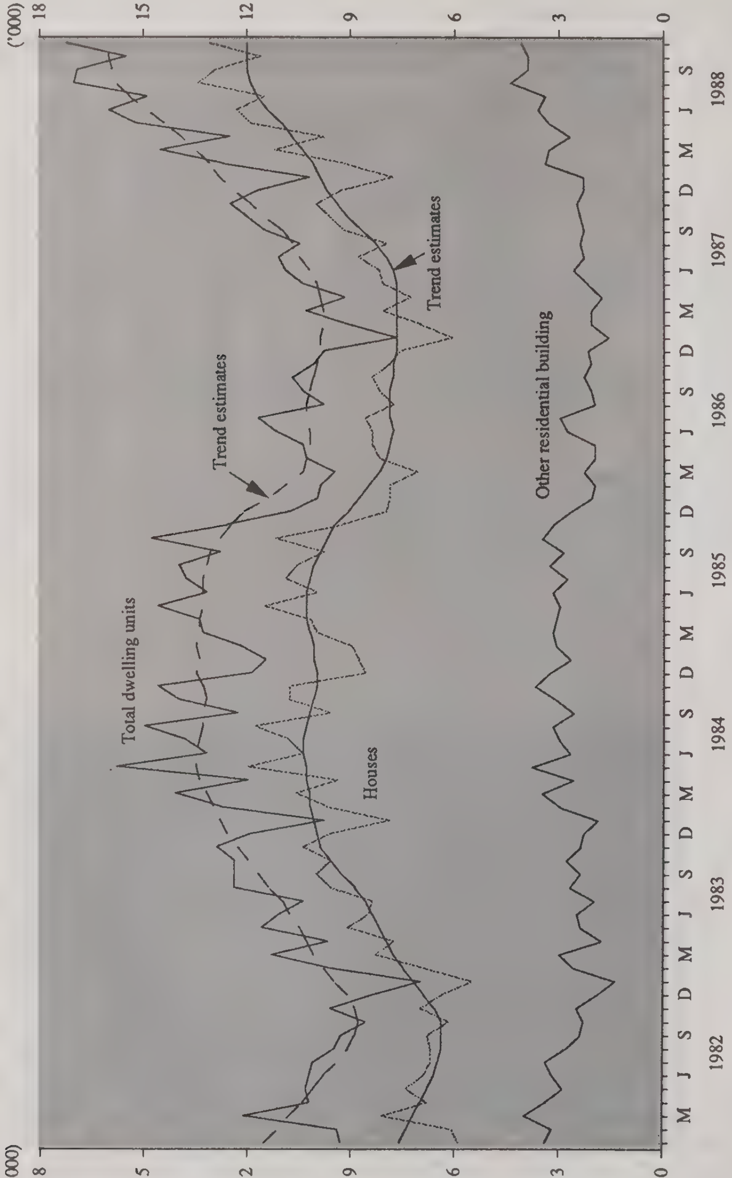
(a) At end of period.

NUMBER OF NEW HOUSES, AUSTRALIA



Note: Break in series from 1980-81 and 1981-82. (See explanation on pages 715-16 in Year Book No.71)

NUMBER OF DWELLING UNITS APPROVED IN NEW RESIDENTIAL BUILDINGS, AUSTRALIA



Number of new houses approved, by material of outer walls

The use of certain materials for outer walls is dictated by such factors as cost, durability, appearance and climatic conditions. Changes in the materials used over time indicate changes in the characteristics of the housing stock.

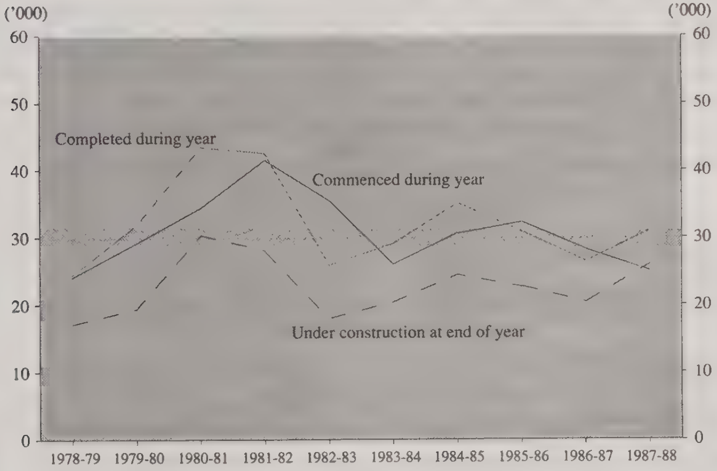
The following table shows the number of new houses approved in each State and Territory during the year 1987–88, classified according to the material of their outer walls.

NUMBER OF NEW HOUSES APPROVED BY MATERIAL OF OUTER WALLS, 1987–88
('000)

Material of outer wall	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Double Brick*(a)*	4.2	0.6	1.9	0.6	15.0	0.1	0.4	—	22.9
Brick veneer	25.4	18.6	20.0	4.7	0.7	2.0	0.2	1.6	73.2
Timber	1.7	2.0	1.9	0.1	0.3	0.4	—	—	6.4
Fibre cement	1.6	0.9	1.5	0.5	0.7	—	—	—	5.3
Other	0.3	0.4	—	—	0.1	—	—	—	0.7
Not stated	—	7.2	—	1.0	—	—	—	0.1	8.3
Total	**33.2**	**29.9**	**25.6**	**6.9**	**17.0**	**2.7**	**0.8**	**1.7**	**117.7**

(a) Includes houses constructed with outer walls of stone or concrete.

NUMBER OF DWELLING UNITS IN NEW OTHER RESIDENTIAL BUILDINGS, AUSTRALIA



Note: Break in series from 1980-81 and 1981-82. (See explanation on pages 715-16 in Year Book No.71)

Number of dwelling units in new other residential building

The level of other residential building construction is highly variable and does not follow the regular pattern experienced in house construction. This can be explained partly by the generally larger size of other residential building construction jobs and also by the extent of speculative building of private flats, home units and similar other residential building projects.

The following table shows the number of new dwelling units in other residential building approved, commenced, under construction and completed by type of ownership in each State and Territory for the year 1987–88.

NUMBER OF DWELLING UNITS IN NEW OTHER RESIDENTIAL BUILDING 1987–88
('000)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Private Sector—									
Approved	8.3	3.8	8.5	1.1	4.0	0.7	0.3	0.8	27.4
Commenced	7.2	3.7	7.6	1.0	3.7	0.6	0.3	0.6	24.8
Under construction*(a)*	7.7	2.9	4.8	0.8	1.9	0.3	0.2	0.6	19.0
Completed	4.9	4.4	4.9	1.0	3.1	0.6	0.3	0.4	19.7
Public Sector—									
Approved	1.9	0.9	1.2	1.0	0.6	0.2	0.1	0.2	6.1
Commenced	2.6	0.7	1.2	1.0	0.5	0.2	0.1	0.3	6.5
Under construction*(a)*	3.7	0.7	0.8	0.7	0.3	0.1	0.1	0.3	6.7
Completed	2.7	0.4	0.7	1.0	0.4	0.2	0.2	0.3	5.9
Total—									
Approved	10.2	4.8	9.7	2.0	4.6	0.8	0.3	1.0	33.5
Commenced	9.7	4.5	8.8	2.1	4.2	0.8	0.4	0.9	31.3
Under construction*(a)*	11.4	3.6	5.5	1.4	2.2	0.4	0.3	0.9	25.7
Completed	7.6	4.8	5.6	2.0	3.5	0.9	0.5	0.7	25.6

(a) At end of period.

Value of buildings

The following table shows the value of all buildings approved, commenced, under construction, completed, work done and work yet to be done in Australia for the year 1987–88, according to the class of buildings. The classification of non-residential building by type of building is according to the function a building is intended to serve, as specified on building authorisations.

VALUE BY CLASS OF BUILDING, AUSTRALIA 1987–88
($ million)

Class of building	*Approved*	*Commenced*	*Under construction(a)*	*Completed*	*Work done (b)*	*Work yet to be done (a)*
New residential buildings—						
New houses	7,798.0	7,030.9	4,143.2	5,993.7	6,509.2	2,067.7
New other residential buildings	1,713.8	1,715.7	1,593.5	1,328.9	1,513.9	814.6
Total new residential building	*9,511.8*	*8,746.6*	*5,736.8*	*7,322.6*	*8,023.1*	*2,882.3*
Alterations and additions to residential buildings(c)	*1,395.8*	*1,330.3*	*771.0*	*1,175.5*	*1,317.8*	*324.9*
Non-residential building—						
Hotels, etc.	1,208.6	1,158.7	1,511.0	740.9	1,012.6	777.3
Shops	1,564.4	1,514.0	1,210.3	1,790.0	1,802.3	503.0
Factories	1,078.6	1,174.2	1,271.3	977.1	1,175.6	447.0
Offices	3,884.7	3,741.3	6,341.9	2,899.5	3,784.2	3,094.8
Other business premises	1,313.4	1,297.2	1,092.4	1,047.3	1,317.8	463.2
Educational	822.1	876.8	992.7	957.3	1,002.5	407.9
Religious	62.5	66.0	60.0	55.5	61.9	30.4
Health	420.1	421.7	955.7	400.7	567.7	343.5
Entertainment and recreational	360.4	405.4	675.4	500.9	640.6	153.7
Miscellaneous	596.6	561.9	1,487.3	390.0	648.0	334.9
Total non-residential building(d)	*11,311.6*	*11,217.2*	*15,598.0*	*9,759.2*	*12,013.1*	*6,555.5*
Total building	**22,219.2**	**21,294.2**	**22,105.8**	**18,257.3**	**21,354.1**	**9,762.8**

(a) At end of period. *(b)* During period. *(c)* Valued at $10,000 or more. *(d)* Valued at $30,000 or more.

Constant prices

Estimates of the value of work done at average 1984–85 prices are presented in the following table. Constant price estimates measure changes in value after the direct effects of price changes have been eliminated.

VALUE OF BUILDING WORK DONE AT AVERAGE 1984–85 PRICES, AUSTRALIA
($ million)

	New residential building					
Year	*Houses*	*Other residential buildings*	*Total*	*Alterations and additions to residential buildings*	*Non-residential building*	*Total building*
1982–83	4,063.2	1,490.3	5,553.5	706.1	4,785.0	11,044.6
1983–84	5,013.9	1,232.2	6,246.1	726.9	5,245.8	12,218.8
1984–85	5,665.2	1,399.3	7,064.5	842.4	6,107.3	14,014.2
1985–86	5,552.4	1,306.7	6,859.1	953.4	7,407.4	15,219.9
1986–87	4,808.4	1,113.1	5,921.5	951.7	7,968.9	14,842.1
1987–88	5,316.4	1,162.3	6,478.7	1,067.7	9,060.2	16,606.6

Building research activity

Recent government initiatives have resulted in the recent amalgamation of the National Building Technology Centre in Sydney with the CSIRO Divisions of Building Research and Energy Technology to form a new CSIRO Division of Building, Construction and Engineering.

Staffed by some 200 researchers and technologists of international standing, their laboratories in Melbourne and Sydney contain the most extensive range of modern testing equipment in Australia. Close links are also maintained with leading overseas researchers and their specialist laboratories.

The work of the Division covers residential, non-residential, and engineering construction including all aspects of design, maintenance, construction, and planning. In addition to its research activities, it provides major support of national regulatory and standardisation processes, appraisal and testing of products, and a wide range of consulting services.

Engineering Construction Survey

This section contains estimates of engineering construction activity in Australia by both public and private sector organisations.

These estimates together with results from the ABS Building Activity Survey provide a complete picture of building and construction activity in Australia.

Scope and coverage of the surveys

The ECS aims to measure the value of all engineering construction work undertaken in Australia. The cost of land and the value of building construction is excluded from the survey's scope. Where projects include elements of both building and engineering construction, for example, electricity generation and heavy industrial plant, every effort is taken to exclude the building component from these statistics.

Repair and maintenance activity is excluded from the survey as are the value of any transfers of existing assets, the value of installed machinery and equipment not integral to the structure and the expenses for relocation of utility services.

A contract for the installation of machinery and equipment, which is an integral part of a construction project, is included in the statistics even though, in some cases, the activity in installing such machinery and equipment is classified to the manufacturing industry in the *Australian Standard Industrial Classification,* Volume 1 (1201.0).

The following tables show the value of engineering construction (ESC) activity by the private sector for sector of ownership and by the public sector for the year 1987–88.

VALUE OF ENGINEERING CONSTRUCTION ACTIVITY BY THE PRIVATE SECTOR 1987–88

($ million)

	Commenced	*Work done(a)*	*Work yet to be done(b)*
	FOR THE PRIVATE SECTOR		
Roads, highways and subdivisions	608.5	591.7	560.6
Bridges	3.0	3.5	0.6
Railways	7.6	39.5	8.3
Harbours	43.0	122.8	7.8
Water storage and supply	56.1	55.1	5.3
Sewerage and drainage	75.2	55.8	7.1
Electricity generation, transmission and distribution	49.5	116.2	34.5
Pipelines	64.8	69.4	11.2
Recreation	176.2	192.0	14.1
Telecommunications	4.3	6.3	1.9
Heavy industry	857.6	1216.6	475.7
Other	34.0	51.4	14.5
Total	*1,979.7*	*2,520.3*	*1,141.4*
	FOR THE PUBLIC SECTOR		
Roads, highways and subdivisions	597.9	622.4	234.1
Bridges	37.7	97.1	19.1
Railways	22.6	120.2	17.4
Harbours	28.2	41.5	12.6
Water storage and supply	100.9	168.5	65.3
Sewerage and drainage	198.4	171.9	118.5
Electricity generation, transmission and distribution	279.6	386.2	347.9
Pipelines	14.8	15.3	2.0
Recreation	33.9	43.0	4.5
Telecommunications	52.4	40.2	19.3
Heavy industry	41.3	70.3	39.9
Other	8.2	9.8	4.0
Total	*1,415.9*	*1,786.5*	*884.6*
	TOTAL		
Roads, highways and subdivisions	1,206.4	1,214.1	794.7
Bridges	40.7	100.6	19.6
Railways	30.2	159.8	25.7
Harbours	71.1	164.3	20.4
Water storage and supply	156.9	223.6	70.5
Sewerage and drainage	273.6	227.7	125.7
Electricity generation, transmission and distribution	329.0	502.4	382.4
Pipelines	79.6	84.7	13.2
Recreation	210.2	234.9	18.6
Telecommunications	56.7	46.5	21.2
Heavy industry	898.8	1286.9	515.6
Other	42.2	61.3	18.5
Total	**3,395.6**	**4,306.8**	**2,026.0**

(a) During period. *(b)* At end of period.

VALUE OF ENGINEERING CONSTRUCTION ACTIVITY BY THE PUBLIC SECTOR 1987–88
($ million)

	Commenced	*Work done(a)*	*Work yet to be done done(b)*
Roads, highways and subdivisions	1,862.5	1,151.9	1,264.4
Bridges	162.0	83.8	122.3
Railways	186.8	143.3	88.6
Harbours	19.4	20.4	15.3
Water storage and supply	331.7	326.7	220.8
Sewerage and drainage	386.7	330.2	332.6
Electricity generation, transmission and distribution	502.1	614.0	456.6
Pipelines	54.7	54.5	2.9
Recreation	99.5	91.3	25.4
Telecommunications	1,677.0	1,592.7	2.4
Heavy industry	6.2	8.6	6.4
Other	11.3	7.7	1.5
Total	**5,300.0**	**4,425.2**	**2,539.4**

(a) During period. *(b)* At end of period.

Construction Industry Survey

The Construction Industry Survey is a sample survey of private sector construction establishments and of public sector enterprises engaged in construction and repair and maintenance activities. The most recent survey was conducted in respect of 1984–85. The next Construction Survey will be conducted in respect of 1988–89. For further details *see Year Book* No. 70.

The private sector collection was conducted as a component of the Bureau's integrated economic statistics program. This program has been developed so that data from each industry sector conform to the same basic conceptual standards, thereby allowing comparative analysis across different industry sectors. The results of this survey are therefore comparable with economic censuses undertaken annually for the mining, and electricity and gas industries and periodically for the transport, manufacturing, wholesale, retail and selected service industries.

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ABS Publications
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Digest of Current Economic Statistics, Australia (1305.0)
Building Approvals, Australia (8731.0)
Building Activity, Australia: Dwelling Unit Commencements, Preliminary (8750.0)
Building Activity, Australia (8752.0)
Engineering Construction Survey, Australia (8762.0)
Construction Industry Survey: Private Sector Construction Establishments, Detail of Operation, States and Territories, 1984–85 (8772.0–8772.8)
Public Sector Construction Activity Survey, 1984–85 (8775.0)
Directory of Housing Related Statistics (1118.0)

Details for particular States are available from publications issued regularly by the Deputy Commonwealth Statistician in each State.

Other Publications
The annual reports of the Commonwealth and State Government Housing Authorities show further details of government activities in the field of housing.

21

TRANSPORT AND COMMUNICATIONS

This chapter contains information on transport and communications and the government bodies concerned with these activities. More detailed figures and particulars for earlier years are included in the publications listed in the bibliography at the end of the chapter.

TRANSPORT ORGANISATIONS

The Australian Transport Advisory Council—ATAC

In April 1946, Commonwealth and State Governments agreed to establish a coordinating and advisory council at ministerial level with the principal function of reviewing annually the various laws and regulations deemed necessary to safeguard the interests of the State governments and road users generally, and to consider matters of transport policy. The Australian Transport Advisory Council comprises Federal, State and Territory ministers responsible for transport, roads and marine matters. The New Zealand Minister of Transport is also represented on the Council as an observer.

At present, the Council meets annually and its primary role is to review and coordinate various aspects of transport policy, development and administration. The Council functions through initiating discussion and reports on any matter raised by Council members, and by providing advice on matters which will promote better coordination and development of transport to the benefit of Australia. The Council has one policy advisory group reporting directly to it, the Standing Committee on Transport (SCOT). The Committee comprises a representative of each ATAC minister, usually the heads of the relevant departments, and deals with overall issues of policy coordination and development. The Committee is supported by four groups of specialist advisers covering the interests of road, rail, road safety and marine and ports.

In addition, the following technical committees and subsidiary bodies report to the Marine and Ports Group and the Road Safety Group:

- Ship Standards Advisory Committee
- Marine Pollution Advisory Committee
- Road User Safety Advisory Committee
- Licensing and Traffic Codes Committee
- Advisory Committee on Transport of Dangerous Goods
- Vehicle Standards Advisory Committee
- Advisory Committee on Vehicle Emissions and Noise
- Advisory Panel on Recall and Unsafe Parts
- Australian Motor Vehicle Certification Board.

Australian Road Transport Advisory Committee—ARTAC

ARTAC comprises representatives of all sectors of the road freight industry and others with relevant specialist expertise. This Committee provides a specific channel of road freight industry advice to the Commonwealth Minister. Membership of the Committee is drawn from the Transport Industries Advisory Council.

Aviation Industry Advisory Council—AVIAC

AVIAC was established in 1978 to enhance the level of consultation between the aviation industry and the government. The Council provides advice to the Commonwealth Minister for Transport and Communications on policies, plans and programs relating to the aviation industry within Australia, promotes the continuing development of a safe, efficient, economic aviation industry, and provides a forum for discussion of important matters of joint concern to the aviation industry and government.

Membership of the Council consists of the Commonwealth Minister for Transport and Communications (Chairperson); Secretary to the Department of Transport and Communications; Chairperson of Qantas Airways Ltd; Chairperson of Australian Airlines Ltd; Chairperson of Regional Airlines Association of Australia Ltd; National Chairperson of the General Aviation Association; Joint Chairpersons of Ansett Transport Industries Ltd; and President of the Aircraft Owners and Pilots Association of Australia.

The Council has established a Committee of Advisers to assist in the analysis and preparation of matters to put to the Council for deliberation and decision.

Bureau Of Transport And Communications Economics—BTCE

The Bureau is a centre for applied economic research which is formally attached to the Department of Transport and Communications but has professional independence in the conduct and reporting of its research.

The Bureau undertakes studies and investigations that contribute to an improved understanding of the factors influencing the efficiency and growth of the transport and communications sector and the development of effective transport and communication policies.

As part of its research program the Bureau collects information such as: passenger and freight movements; fares and freight rates; road financing statistics and shipping costs. The information is available to the public.

The Bureau regularly publishes the result of its research work and its publications are available through the Commonwealth Government Bookshops in capital cities.

Civil Aviation Authority—CAA

The CAA was established under the *Civil Avation Act 1988* and commenced operations on 1 July 1988.

The Authority is responsible for safety regulations of civil aviation in Australia and of Australian aircraft operating outside Australia. It also provides air route and airway facilities and associated services to the aviation industry, i.e. air traffic control, flight service, rescue and fire fighting, search and rescue and aeronautical information.

Costs of services are to be recovered through charges to the industry, but the major part of costs of safety regulation will continue to be funded through the Budget.

The Authority's 7,200 staff are employed under the Public Service Act.

The Authority represents Australia in the International Civil Aviation Organization, and is authorised to provide consultancy and management services to other countries.

Federal Airports Corporation—FAC

The Federal Airports Corporation is a Commonwealth Statutory Authority established by, and incorporated under, the *Federal Airports Corporation Act 1986*. The Act was passed by the Commonwealth Parliament on 14 February 1986, and proclaimed on 13 June 1986.

On 1 January, 1988 the FAC assumed ownership, management and development of Australia's major airports and for the commercial activities on the airports, including arrangements with airlines and other operators for the use of airports and for leasing of property and the letting of business concessions.

The Federal Airports Corporation has responsibility for the following airports:

- NSW—Sydney (Kingsford Smith) Airport, Bankstown, Hoxton Park and Camden
- Vic.—Melbourne, Essendon and Moorabbin
- Qld—Brisbane, Archerfield and Coolangatta
- SA—Adelaide and Parafield
- WA—Perth and Jandakot
- Tas.—Hobart, Launceston and Cambridge

The Corporation is a statutory transport business undertaking of the Commonwealth and is required to act in accordance with sound commercial pratice. It is commercially flexible and responsive in order to make changes and act in a timely manner to meet the requirements of a dynamic market.

To allow it to do this, the Corporation is not bound by many of the constraints that apply to a Government Department.

Like any business, the Corporation is required to be financially self-supporting. It has been established with a capital base and debt/equity ratio determined by the Commonwealth Government in accordance with the FAC legislation.

Independent Air Fares Committee

The Independent Air Fares Committee was established by the *Independent Air Fares Committee Act 1981*, with the responsibility for approving all passenger fares charged on domestic air services by trunk route, regional and commuter operators. The Act, which is part of the 'two-airline policy' legislation, came into operation in January 1982. The Committee's role is that of a fare determining authority.

Operators may request the Committee to conduct a review to determine the economy air fares to be charged. The Committee approves discount air fares on application from operators where it is satisfied that a proposal meets criteria specified in the Act. Details of economy and discount fares approved by the Committee are notified in the *Commonwealth of Australia Gazette*.

At the request of the Minister for Transport and Communications, the Committee undertakes cost allocation reviews to determine how costs attributable to domestic passenger air services should be allocated between flagfall and distance components of air fares. Public hearings and submissions form part of a cost allocation review during which the principles of fare setting are examined.

The Committee's responsibilities will cease upon termination of the Airlines Agreement ('two-airline policy') on 30 October 1990.

Transport Industries Advisory Council—TIAC

The Council was formed following the March 1971 Australian Transportation Conference. The Council advises the Commonwealth Minister for Transport and Communications on national transport issues.

The members of TIAC are drawn from senior management of authorities representing all modes of transport, including user groups, government bodies and unions. The Minister appoints members on the basis of personal expertise and the contribution they may be able to make to Council affairs. The full Council, which meets four times a year, operates through an Executive Committee and subject-specific Project Committees. A report of TIAC activities is published annually in the Department of Transport and Communications Annual Report.

THE TRANSPORT INDUSTRY

Transport Industry Survey

This section contains statistics obtained from a survey of transport establishments conducted in respect of 1983–84 (referred to as the Transport Industry Survey). This survey was the first of its kind conducted in Australia and included establishments predominantly engaged in providing passenger or freight transport services for hire or reward by road, rail, water and air transport (collectively referred to as the modal transport industries) plus freight forwarding.

The survey was conducted as a component of the Australian Bureau of Statistics integrated economic statistics system and the results are comparable with economic censuses and surveys undertaken annually for the mining, manufacturing and gas industries and periodically for the wholesale, retail and selected service industries.

Summary of operations

The following table shows key items of data by industry mode for transport establishments in Australia, for the year 1983–84. The industries described are based on the 1983 edition of the Australian Standard Industrial Classification (ASIC).

TRANSPORT ESTABLISHMENTS: SUMMARY OF OPERATIONS BY INDUSTRY MODE, AUSTRALIA, 1983–84

ASIC Code	*Description*	*Establishments at 30 June 1984*	*Average employment over whole year (a)*	*Wages and salaries (b)*	*Turnover*	*Stocks*		*Total purchases, transfers in and selected expenses*	*Value added*	*Fixed capital expenditure less disposals*
						Opening	*Closing*			
		No.	No.	$m	$m	$m	$m	$m	$m	$m
511	Road freight transport	32,943	99,606	902.5	5,187.3	47.4	49.8	2,921.8	2,267.8	237.6
512	Road passenger transport	10,615	45,841	571.2	1,528.6	34.0	37.4	593.5	938.5	56.4
5200	Rail transport	12	86,721	1,688.5	3,314.8	178.9	179.4	1,417.5	1,897.8	406.9
53	Water transport	165	8,978	212.7	1,238.9	14.9	14.7	814.5	424.3	23.2
54	Air transport	334	23,597	600.8	2,958.0	20.4	19.9	1,747.9	1,209.6	178.1
51–54	**Total modal transport**	**44,069**	**264,743**	**3,975.7**	**14,227.6**	**295.6**	**301.2**	**7,495.2**	**6,738.0**	**902.2**

(a) Includes working proprietors and partners. *(b)* Excludes the drawings of working proprietors and partners.

Business Vehicle Survey

Concurrent with the Transport Industry Survey (TIS), the Bureau conducted a Business Vehicle Survey (BVS) to obtain a more complete picture of road freight transport activity in Australia. This involved the collection of road freight transport information from a sample of private enterprises whose main activity was not road freight transport but who operated at least one truck with a gross vehicle mass of 2.7 tonnes or more and used that truck to carry freight on public roads.

Results from the TIS and BVS were combined to produce estimates of road freight activity as shown in the following table.

ROAD FREIGHT ACTIVITY OF PRIVATE ENTERPRISES: SUMMARY OF ACTIVITY BY INDUSTRY DIVISION, AUSTRALIA, 1983–84

			Trucks operated at 30 June 1984			*Truck drivers at 30 June 1984*				
ASIC Code	*Description*	*Enterprises at 30 June 1984*	*Rigid*	*Articulated*	*Total*	*Working proprietors/partners*	*Employees*	*Total*	*Wages and salaries paid to truck drivers(a)*	*Freight carried on trucks (b)*
A	Agriculture, forestry, fishing and hunting	85,796	105,446	8,163	113,609	11,727	3,416	15,143	35.3	58.5
B	Mining	557	2,151	424	2,575	62	1,810	1,872	37.6	17.3
C	Manufacturing	8,109	21,545	2,867	24,413	694	16,049	16,743	279.0	43.8
E	Construction	12,383	18,327	1,494	19,822	2,066	4,860	6,926	79.8	40.1
F	Wholesale and retail trade	19,333	34,222	3,544	37,766	4,070	16,885	20,955	297.9	55.8
511	Road freight transport	32,616	36,535	21,307	57,842	28,147	27,818	55,966	501.5	362.1
512–580	Other transport and storage	742	1,237	251	1,488	157	684	841	13.0	5.2
G	Total transport and storage	33,358	37,772	21,558	59,330	28,305	28,502	56,807	514.5	367.3
I	Finance, property and business services	1,718	3,725	922	4,647	97	2,612	2,710	51.0	11.4
K	Community services	1,055	2,277	42	2,319	500	1,187	1,688	20.4	6.5
L	Recreation, personal and other services	1,773	2,523	159	2,682	247	677	924	10.0	6.2
	Total	**164,081**	**227,988**	**39,174**	**267,161**	**47,769**	**75,999**	**123,768**	**1,325.5**	**606.9**

(a) Excludes the drawings of working proprietors and partners. *(b)* Estimates of freight carried relate to freight uplifted by trucks and therefore, to the extent that transshipment occurs (i.e. the transfer of freight from one truck to another), estimates of freight carried will overstate the actual physical quantity of freight moved.

NOTE: Road freight activity data collected from road freight establishments included in the TIS has been tabulated against the industry to which the enterprise of the road freight transport establishment is classified, e.g. the figures for a road freight establishment of a manufacturing enterprise would be tabulated against ASIC Division C.

SHIPPING

Control of Shipping

Commonwealth Government navigation and shipping legislation

Commonwealth Acts concerned with shipping are: the *Navigation Act 1912*, the *Sea Carriage of Goods Act 1924*, the *Seamen's Compensation Act 1911*, the *Seamen's War Pensions and Allowances Act 1940*, the *Protection of the Sea (Civil Liability) Act 1981*, the *Protection of the Sea (Powers of Intervention) Act 1981*, the *Protection of the Sea (Shipping Levy) Act 1981*, the *Protection of the Sea (Shipping Levy Collection) Act 1981*, the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*, the *Navigation (Protection of the Sea) Amendment Act 1983*, the *Australian Coastal Shipping Commission Act 1956*, the *Environment Protection (Sea Dumping) Act 1981*, the *Submarine Cables and Pipelines Protection Act 1963*, the *Lighthouses Act 1911, the Explosives Act 1961*, the *King Island Shipping Service Agreement Act 1974*, the *Bass Strait Sea Passenger Service Agreement Act 1984*, the *Ship Construction Bounty Act 1975*, the *Bounty (Ships) Act 1980*, the *Bounty (Ship Repair) Act 1986*, the *Australian Shipping Commission (Additional Capital) Act 1985*, the *Ships (Capital Grants) Act 1987*, the *Trade Practices Act 1974* Part X, the *Shipping Registration Act 1981.*

Navigation Act

The *Navigation Act 1912* (as amended), provides for various regulatory controls over ships and their crews, passengers and cargoes, mainly for the preservation of life and property at sea. Substantial penalties are provided for serious offences. The Act gives effect to a number of important international conventions produced under the aegis of the International Maritime Organisation (IMO).

There are 25 sets of Regulations under the Act, and a system of Marine Orders which give legislative effect to various safety and technical requirements in respect of ships, their cargoes and persons on board.

Taken in the order in which they appear in the Act, the main substantive matters dealt with are as outlined below.

Masters and seamen

Some sections deal with the examination of masters, mates and engineers for certificates of competency. Other sections ensure that appropriate conditions apply to crews serving on ships by providing for the supervision of the engagement, discharge and payment of wages; discipline at sea; the settlement of wages and other disputes; the return to their home port of distressed seamen; taking charge of wages and effects of deceased seamen and of those who have deserted or been left behind; and inquiries into deaths at sea. These matters are administered by Mercantile Marine Offices established at numerous ports. The health of seamen is cared for by the prescription of scales of medicines and medical stores to be carried by ships, and there are provisions to give effect to International Labour Organisation Convention requirements for the accommodation of crews. Plans for new or altered accommodation in ships have to be approved by a Crew Accommodation Committee.

There are requirements for the manning of ships and manning disputes are often dealt with by statutory Committees of Advice. The Act provides for a Marine Council to advise the Minister on the suitability of persons for engagement as seamen.

Ships and shipping

There are particularly important provisions dealing with ship safety in such matters as survey of ships, load lines, life-saving and fire appliances, prevention of collisions, and carriage of potentially dangerous cargoes. While in Australia, all ships which trade interstate or overseas come under the survey provisions of the Navigation Act and require certificates issued by the Department of Transport and Communications, unless they are registered in a country which is a party to the Convention concerned and hold valid certificates issued by their governments and conforming to the requirements of the Safety of Life at Sea and Load Lines Conventions. There is power to detain any ship, the condition of which does not conform with the conditions set out in its certificate, or which appears to be overloaded or otherwise unseaworthy.

Passengers

These provisions deal with matters necessary or convenient for regulating the carriage of passengers in respect of such matters as numbers that may be carried, accommodation and health aspects.

Offshore industry

These provisions deal with offshore industry vessels and offshore industry mobile units. Marine Orders giving effect to IMO resolutions on this sector of the marine industry were recently introduced.

Coasting trade

Under the coasting trade provisions of the Navigation Act, the Australian coastal trade is reserved for licensed vessels, i.e. those which employ seamen at Australian wage rates and are not subsidised by foreign governments. The Act does not restrict the class of ships which may obtain a licence. It is open to any vessel, irrespective of the registry, to obtain a licence on compliance with these conditions and to operate in the Australian coastal trade, subject to permission being given for the importation of the vessel under the Customs (Prohibited Imports) Regulations where necessary. Provision exists for unlicensed vessels to carry interstate cargoes under single voyage permits in certain circumstances where licensed vessels are not available or are inadequate to meet the needs of the trade.

Wrecks and salvage

There are provisions in relation to wrecks and salvage, covering preservation of life and of the wreck and its cargo and related matters.

Limitation and exclusion of shipowners' liability

These sections give effect to an international convention and make provision on the widest possible basis for the limitation of shipowners' liability in Australia.

Courts of Marine Inquiry

There are provisions for the holding of Courts of Marine Inquiry to investigate the circumstances attending any casualties to ships that come within Commonwealth legislative authority, usually following a preliminary investigation.

Shipping Registration Act

The *Shipping Registration Act 1981* received Royal Assent on 25 March 1981 and was proclaimed on 26 January 1982. This Act replaces Part I of the Merchant Shipping Act 1894 (UK) under which ships in Australia were registered as British ships. The Act provides for all ships on the British Register in Australia to be automatically transferred to the new Australian Register. The Act has two basic objectives, namely the conferring of Australian nationality on Australian-owned ships and the registration of ownership and encumbrances.

The Act was amended in 1985 to improve the general administration and the protection of registered and unregistered interests.

Taken in order in which they appear in the Act, the main substantive matters are as follows.

Registration of ships

This part deals with the obligation to register Australian-owned ships, the ships permitted to be registered, the application for registration, particulars to be entered in the Register, the issue of Registration Certificates, Provisional Registration Certificates and Temporary Passes, changes in ownership, marking and naming of the ship, nationality of ships, flags to be flown, assuming and concealing Australian nationality.

Transfers, transmissions and mortgages

This part deals with the transfer, transmission of ship and shares, the taking out, transfer, transmission and discharge of mortgages and the entry of this information into the Register. Caveats can be lodged to protect unregistered interests.

Administration

This part deals with the appointment of the Registrar, delegation of the powers of the Minister and Registrar, the establishment of the Shipping Registration Office and Branch Offices.

Register of ships

This part deals with the maintenance, rectification and inspection of the Register.

Miscellaneous

This part deals with liabilities of ships not registered, the appointment of registered agents, alterations to a registered ship, forfeiture and detention of ships, taking officers to sea, false statements, offences, evidentiary provisions, review, jurisdiction and appeals, preservation of State and Territory legislation and regulation making powers.

Transitional provisions

This part deals with the change over from the previous law to the new legislation. This includes the completion of transactions commenced under the previous law and the acceptability of documents prepared under the previous law. This part is now largely non-operative.

Ships (Capital Grants) Act

The *Ships (Capital Grants) Act 1987* provides shipowners with a taxable grant of 7 per cent of the purchase price of eligible new, or newly-acquired second-hand trading ships. The legislation defines the conditions and procedures under which a grant may be paid. Briefly, the Act requires that ships hold a category certificate and be crewed in accordance with crewing benchmarks specified for that category, be registered in Australia and crewed with Australian residents. If newly-acquired second-hand tonnage, the ship concerned must not have been registered in Australia before, and be no more than five years old. The grant scheme is applicable only to vessels ordered after 22 December 1986 and which commence operations between 1 July 1987 and 30 June 1992 for new ships, or 30 June 1990 for second-hand ships.

Australian Shipping Commission

The Australian Coastal Shipping Commission was established by the *Australian Coastal Shipping Commission Act 1956*. Its role has been to establish, maintain and operate interstate, overseas and territorial shipping services. In October 1974, the Commission's title was changed to the Australian Shipping Commission to reflect the increasing importance of its overseas trading activities. In 1980 the Australian Shipping Commission Act was amended to increase the Commission's borrowing powers and give it greater flexibility in determining freight rates. Further amendments to the Act were introduced in 1983, giving the Commission greater control over its day-to-day operations and allowing it to operate more commercially.

As part of a package to reshape and improve the efficiency of its business enterprises, the Government announced in May 1988 that, as is appropriate for a fully commercial organisation, the Commission would be incorporated under companies legislation. Following substantial legislation changes, this is scheduled to take effect from 1 July 1989.

As at 30 June 1988 the Commission, trading as the Australian National Line (ANL), owned and operated a fleet of fourteen ships. The fleet included nine ships engaged in overseas trades comprising six liner ships totalling 157,000 deadweight tonnes, and three bulk carriers totalling 402,000 deadweight tonnes.

The fleet also included five ships engaged in coastal trade, two liner ships totalling 17,000 deadweight tonnes and three bulk carriers totalling 185,000 deadweight tonnes.

The Line operated specialised terminals at Melbourne, Burnie, Bell Bay, Sydney and Brisbane.

In recent times the Line has been affected by the general downturn experienced by the shipping industry, particularly in international trade. In 1984 it initiated a review of all its services. It instituted a major rationalisation and withdrew from unprofitable services which resulted in the disposal of obsolete vessels. In an effort to broaden its revenue base and provide a more integrated transport service, ANL has moved into shipping related activities, particularly container management, ship agency, customs agency and ship management services.

Shipbuilding assistance

The shipbuilding industry has been assisted by the government since the introduction of the shipbuilding subsidy scheme in 1947.

Ships built at major yards include small cargo ships, offshore supply ships, passenger ferries, fishing ships, dredges and barges. In addition, there are numerous smaller yards building non-bountiable ships such as pleasure craft, small fishing ships, and other small craft. Construction of large ships in Australia ceased in 1978.

Under the *Bounty (Ships) Act 1980*, bounty is accorded to the production in Australia of vessels over 150 gross construction tonnes, or over 21 metres in the case of fishing ships. Bounty is payable on a 'cost of construction basis' at a rate of either 15 or 20 per cent.

The report of the Task Force on the Australian Shipbuilding Industry submitted to the Government in January 1984 recommended action be taken to increase the through-put of Australian yards. In October 1984, a major new package designed to assist the Australian Shipbuilding Industry was announced by the Government. The package included the extension of the bounty to cover ships built for export; a proposed industrial agreement between industry and the ACTU; introduction of registration criteria for shipbuilders who want to claim bounty; and the establishment of a Shipbuilding Consultative Group to monitor progress in the industry and register shipbuilders.

In August 1986, the Government announced changes to the shipbuilding bounty arrangements, including the setting of an absolute limit of $144 million on funds available for bountiable ships over the three years to the end of June 1989. The distinction between vessels built for domestic and export markets was ended for purposes of bounty eligibility. Builders of domestic vessels, like builders of export vessels, are required to reserve bounty funds from within the $144 million. The rate of bounty for certain classes of vessels was reduced from 20 per cent to 15 per cent from 1 January 1988. The higher rate still applies to tugs, bulk carriers, rig servicing and fishing vessels and to all vessel modifications. A further significant change has been the application of orderly development criteria to all shipbuilders seeking access to bounty.

As at 31 March 1988, 22 shipbuilders were registered for bounty purposes. In 1986–87, 67 bountiable vessels were completed—the largest number constructed in any one year since the introduction of the *Bounty (Ships) Act 1980* and an increase of 8 per cent over 1985–86.

Total financial assistance to the Australian shipbuilding industry in 1987–88 amounted to $37.2 million (compared with $42.0 million in 1986–87 and $38.7 million in 1985–86).

Total financial assistance to registered ship repairers in 1987–88 amounted to $2.3 million (compared with $0.2 million in 1986–87).

The Government is reviewing assistance arrangements for the shipbuilding industry for the period from 1 July 1989. Consultations with the industry are occurring on the basis of a report by the Industries Assistance Commission.

Ship repair

In October 1986, the Government announced a $6 million ship repair assistance package aimed at strengthening the ship repair industry. Two major elements of the package are the bounty payable to registered ship repairers, and the extension of the Department of Transport and Communications' official ship safety inspection system to give effect to internationally accepted health and safety standards based on the International Labour Organisation (ILO) Convention 147. The bounty applies to international trading vessels of at least 6,000 deadweight tonnes whether Australian or foreign owned and is payable up to 30 per cent of the repair contract price. To be eligible for bounty, repairers must be registered under the *Bounty (Ship Repair) Act 1986*.

Importation of ships

Under the Customs (Prohibited Imports) Regulations all ships are prohibited imports unless the written permission of the Minister for Transport and Communications, or an authorized officer, is obtained. All new vessels, second-hand vessels exceeding 10,000 gross construction tonnes (gct) (or exceeding 2,000 gct in the case of dredgers and cargo trading ships) and all second-hand vessels of a type not available new from Australian shipyards, are eligible for permanent importation. In addition, other second-hand vessels between 70 gct and 10,000 gct may be temporarily imported for certain specific purposes provided a suitable vessel is not available locally. In July 1988, the Industries Assistance Commission (IAC) reported to the Treasurer on its inquiry into the Australian ship and boat building industry. The inquiry reviewed assistance measures to the industry, including the present ship import control arrangements. The IAC's report was released on 17 August 1988.

Stevedoring industry

In December 1977, legislation was introduced which provided for new administrative, financial and industrial arrangements for the stevedoring industry, and abolished the Australian Stevedoring Industry Authority. The arrangements give the parties directly involved in the industry greater responsibility for the industry's affairs.

The Stevedoring Industry Finance Committee is responsible for the disbursement of funds collected through statutory man-hour and cargo levies.

A federal coordinating committee, comprising representatives of the employers and the Waterside Workers' Federation (WWF) and Broken Hill Pty Ltd (BHP) and the Australian National Line, oversees the operation of arrangements agreed to in the General Agreement between employers and the WWF. At the port level such matters are handled by Port Co-ordinating Committees set up in the major ports.

Under section 85A of the *Conciliation and Arbitration Act 1904*, a Port Conciliator Service was created to assist parties to an industry award to implement the procedures of that award for the prevention or settling of disputes.

A non-statutory Stevedoring Industry Consultative Council has been established to provide a forum for discussion and liaison between governments, user interests and the operating sections of the industry. The Chairman is appointed by the Commonwealth Government.

The Statutory provisions relating to the industry are contained in the *Stevedoring Industry Finance Committee Act 1977*, the *Stevedoring Industry Levy Act 1977*, the *Stevedoring Industry Levy Collection Act 1977*, the *Port Statistics Act 1977* and Part III, Division 4 of the *Conciliation and Arbitration Act 1904*.

Waterfront Strategy

In December 1986, the Federal Government announced a comprehensive strategy to improve the efficiency, productivity, reliability and industrial relations record of Australia's waterfront and related industries. The Waterfront Strategy was developed following consideration of the Report of the Industry Task Force on Shore-Based Shipping Costs.

The strategy involves four industry based groups working under the umbrella of the Inter-State Commission. The four industry groups are: Stevedoring Industry Review Committee; Importer/Exporter Panel; Industry Committee; and Australian Transport Advisory Council's Standing Committee on Transport.

The Inter-State Commission provided a preliminary report to the Government in August 1988 reviewing the progress of the Strategy and outlining draft findings in relation to a structural reform package for the industry. A final report by the Commission was presented in November 1988 following public hearings and discussions.

Tasmanian Freight Equalisation Scheme

The Tasmanian Freight Equalisation Scheme was introduced from 1 July 1976 to provide assistance to the shippers of certain non-bulk goods between Tasmania and the mainland of Australia. The Scheme aims to alleviate the additional transport costs which have to be borne by Tasmanian shippers because of their separation from the mainland by sea. Responsibility for administration of the Scheme lies within the Transport portfolio.

The northbound component of the Scheme applies to specified goods produced in Tasmania which are shipped by sea to the mainland for use or sale. The southbound component covers certain raw materials, machinery and equipment used in Tasmania's manufacturing, mining and primary industries. In 1987–88, $24.8 million in assistance was paid on northbound and $3.1 million in assistance was paid for southbound cargoes.

Trade Practices Act

The Overseas Cargo Shipping provisions of the *Trade Practices Act 1974* (Part X–Overseas Cargo Shipping) are administered by the Transport and Communications portfolio. Part X establishes conditions for the operation of outwards shipping conferences and individual shipowners operating in Australia's outwards trades. Conference agreements between several shipowners in a particular trade make provision for the fixing of common freight rates. They may also include provisions for pooling arrangements and shares of the trade and rationalised sailing schedules.

Part X exempts conferences from the generally applicable anti-restrictive provisions of the Act, and seeks to ensure adequate safeguards to protect shippers through:

- requiring the filing of outwards conference agreements;
- requiring shipowners to give undertakings to hold meaningful negotiations with the designated shipper body, the Australian Shippers' Council (ASC);
- providing for disapproval of a conference agreement to be exercised by the Governor-General on a number of prescribed grounds, such as a failure on the part of the shipowner to comply with an undertaking, lack of due regard to the need for overseas shipping services to be efficient, economical and adequate, prevention or hindrance of an Australian flag operator from engaging efficiently in overseas cargo shipping to a reasonable extent.

Comparable provisions apply to individual shipowners who are not party to a conference agreement.

In November 1987 the Government announced details of its decision to reform Part X. The reform package, which was enacted late in 1988, represents a major reorientation of our regulatory approach to international shipping conferences.

In essence, Part X will be amended to create a more competitive liner shipping environment and to increase the visibility of conference arrangements. The new legislation will reduce the scope of the existing exemption from Part IV of the Trade Practices Act, require conference agreements to be public and to comply with minimum standards, and prohibit abuse of market power by conferences. Existing legislative provisions to prevent conferences from unreasonably hindering Australian flag participation in overseas trades will be retained and streamlined to make them more workable, in line with the Government's Commitment to the development of a competitive Australian shipping industry. Interested parties will be able to initiate complaints either through the Minister or direct with the Trade Practices Commission. Legitimate complaints concerning unfair pricing practices will be referred to the Trade Practice Tribunal for investigation and report to the Minister.

Sea Carriage of Goods Act

The *Sea Carriage of Goods Act 1924*, provides for regulation of carriers' responsibilities and liabilities in sea borne trades. The Act is based on an international convention, known as the Hague Rules, which came into effect in 1924.

The Hague Rules, and consequently the Act, have become technically deficient in a number of areas and in June 1988 the Government announced it would amend the Act to take into account international trends in marine cargo liability regulation. Australia will formally adopt and implement the Visby and SDR Protocols to the Hague Rules. This will bring Australian legislation into line with practices in the major European countries. The amended Act will also provide a mechanism for the future implementation of the Hamburg Rules, a United Nations Convention on the Carriage of Goods by Sea, when these Rules have gained wider international acceptance and represent a viable alternative for Australia.

Marine pollution

The *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*, the *Navigation (Protection of the Sea) Amendemnt Act 1983*, the *Protection of the Sea (Powers of Intervention) Act 1981*, the *Protection of the Sea (Civil Liability) Act 1981*, the *Protection of the Sea (Shipping Levy) Act 1981* and the *Protection of the Sea (Shipping Levy Collection) Act 1981* currently provide the Commonwealth with the power to deal with matters relating to marine pollution.

The Acts respectively provide for the control of discharges at sea and provision of control equipment and procedures on ships; empower the Minister to intervene to take action to prevent or reduce pollution, make provision relating to limitation of liability of oil tankers for oil pollution damage; and provide for the collection of a levy to finance the National Plan to Combat Pollution of the Sea by Oil.

Collection and Presentation of Statistics

Statistics relating to shipping and cargo are compiled from information provided to the Australian Customs Services (ACS) by importers, exporters, shipping companies and their agents. This information is supplied to the Australian Bureau of Statistics by ACS on a regular basis and is used to produce transport oriented statistics via the following two collections:

- *Shipping and Cargo (B380)*. A direct collection from shipping companies of details of ship movements and cargo carried.
- *Shipping and Air Cargo Commodity Statistics (SACCS)*. A collection which combines information from import and export documents submitted to the ACS with transport and shipping information to provide a comprehensive picture of the transport base of Australia's foreign trade.

Shipping and Cargo Statistics

The scope of the statistics

The statistics relate to ships calling at or departing from Australian ports for the purpose of carrying cargo from or to overseas ports. Details are not required for:

(i) naval ships;
(ii) yachts and other craft used for pleasure;
(iii) foreign fishing ships that neither load nor discharge cargo;
(iv) Australian registered fishing ships operating from Australia ports;
(v) geographical survey ships, seismic survey ships, oceanographic survey ships;
(vi) offshore oil drilling rigs and ships servicing them;
(vii) ships of 200 registered net tonnes and under.

Period covered by the statistics

Shipping and cargo statistics are compiled, on a financial year basis, according to the period during which ships actually arrived or departed Australian shores.

Ship characteristics

Ship recording

Ship movement statistics are recorded as 'Ship Number' and 'Ship Calls'. 'Ship Number' relates to the number of overseas direct arrivals to, or departures from Australia. 'Ship Calls' relates to the number of port visits that an overseas ship makes in Australia. For example, an overseas ship which arrives direct in Brisbane and makes a further call in Sydney before departing for an overseas port from Melbourne is counted as one under 'Ship Number' for both arrivals (Brisbane) and departures (Melbourne) and as one arrival call and one departure call for each of the three ports.

Ship type

All ships are classified from *Lloyd's Register of Shipping* according to one of 11 ship types which describe them in terms of their structure or design. These 11 ship types are amalgamated into four broad categories.

Category	*Ship types*
General cargo ships	Container ships Conventional cargo ships Roll on–Roll off ships Other cargo ships
Tankers	Gas carriers Liquid tankers
Bulk carriers	Dry bulk carriers Dry/wet bulk carriers
Other ships	Multi-purpose ships Passenger ships Other ships

Type of service

Ships are also classified according to the type of service they provide. The two types of service for which statistics are shown are:

(a) *liner service*, (according to conference and non-conference) relates specifically to a ship which is operated by a carrier providing services on a specified route on a relatively regular basis;
(b) *other service*, which refers to all ships operating in other than a liner service.

Conference ships—A 'conference' is an association of shipowners which regulates the freight rates and terms and conditions of carriage of goods in any particular trade. Conferences only operate liner services and not charter services. Conference arrangements normally include provisions for sharing the trade, rationalising sailing schedules and pooling arrangements for resources and revenue.

Country of registration

The country of registration or flag of the ship refers to the country in which the ship is registered according to *Lloyd's Register of Shipping*.

Units of quantity for cargo

Cargo statistics are recorded in terms of revenue tonnes and gross weight tonnes.

A *revenue tonne* is the unit of quantity predominantly used in the shipping industry. It is the basis on which freight is charged and may be measured by mass (tonnes) or volume (cubic metres). Revenue tonnes statistics are consequently a mix of mass and volume units and should be used with care.

Gross weight is the total weight in tonnes of cargo, excluding the weight of containers, irrespective of the basis on which freight is charged.

Container cargo

Statistics of container cargo refer only to cargo shipped in international containers (including flats but not pallets). To provide a standard measure, all statistics relating to containers are expressed in terms of twenty-foot units. A forty-foot container is therefore recorded as 2 twenty-foot equivalent units (or TEUs).

Country of loading or discharge of overseas cargo

In statistics of overseas shipping and cargo, the country of loading or discharge of overseas cargo is the country of location of the port where the cargo was loaded on to, or is to be discharged from, a reporting ship. The countries shown are not necessarily the countries of origin or ultimate destination of cargo because previous or subsequent trans-shipments of cargo are not taken into account. The statistics of cargo classified by the country in which it was loaded or discharged cannot therefore be compared directly with statistics of overseas trade classified by country of origin or consignment.

Trade area

Ports at which ships load or discharge cargo are allocated to their respective countries, which are in turn allocated to trade areas in accordance with the Classification of Trade Areas for Cargo Statistics.

It should be noted that a revised trade area classification became effective on 1 July 1984. Care should therefore be taken when comparing trade area statistics for earlier periods with those published using the revised trade area classification.

Units of measurement

Deadweight tonnage. A measure of the total mass (weight, in tonnes) of cargo, stores, fuel, passengers and crew carried by the ship when loaded to her maximum summer loadline.

Gross tonnage. A measure of the enclosed internal volume of a ship and its superstructure, with certain spaces exempt, in units of 1 ton per 2.83 cubic metres.

Shipping and Air Cargo Commodity Statistics—SACCS

The scope of the statistics

Inward cargo statistics relate to cargo loaded overseas which is discharged from ships and aircraft at Australian ports and in respect of which Customs import documents have been received. Similarly, outward cargo statistics relate to cargo loaded on ships and aircraft at Australian ports for discharge at overseas ports and in respect of which Customs export documents have been received. Details are not included for:

(i) goods imported and exported by parcel post;

(ii) direct transit trade, i.e., goods being transshipped or moved through Australia for purposes of transport only;

(iii) migrants' and passengers' effects for which Customs documents are not required;

(iv) certain materials under inter-governmental agreements for defence and similar projects for which Customs documents are not required;

(v) ships and aircraft entering and departing Australia under their own power;

(vi) to the extent that they can be identified, ships and aircraft purchased for use on overseas routes and any subsequent sales made of such vessels and aircraft;

(vii) fish and other sea products landed in Australia and abroad directly from the high seas by Australian ships (such products landed in Australia directly from the high seas by foreign ships are included);

(viii) ships and aircraft stores;

(ix) export consignments where the value of the goods in each transaction was less than $250 for entries lodged prior to 1 July 1986, and less than $500 for entries lodged from that date, and import entries lodged on informal clearance documents for values not exceeding $250.

Period covered by the statistics

Although both foreign trade statistics and SACCS are compiled from the same source, imports and exports are recorded statistically in the month in which relevant documents are lodged with ACS, whereas SACCS are compiled according to the period during which goods were actually loaded and discharged in Australia.

Commodity classification

Commodities are classified according to the Australian Transport Freight Commodity Classification (ATFCC). The ATFCC is the Australian standard for classifying goods transported by any of the transport modes: sea, rail, road, air or pipeline. It is a four level classification defining commodities in terms of one or more categories of the Standard International Trade Classification (SITC) or the dissection of the SITC categories embodied in the Australian Import and Export Commodity Classification. At the lowest (the fourth) level of classification the ATFCC has 312 items.

Valuation

The recorded value of inward cargo is the free on board (f.o.b.) equivalent of the price when the sale of such cargo is conducted under open market conditions. This is in accordance with the provisions of the General Agreement on Tariffs and Trade (GATT) relating to Customs valuation. The recorded value also includes the value of the outside package, other than international containers used for containerised cargo. As additional factors are also considered in arriving at the transaction value of goods for Customs purposes, the f.o.b. value may not always be the same as the Customs value.

For outward cargo, goods actually sold to overseas buyers prior to shipment are valued at the f.o.b. equivalent of the actual price paid to the exporter. Goods shipped on consignment are valued at the f.o.b. equivalent of the price that would have been paid to the exporter had the goods actually been sold to an importer in the country of final destination. As for inward cargo, the recorded value also includes the value of the outside package, other than international containers used for containerised cargo.

Units of quantity

Gross weight is the total weight in tonnes of cargo, excluding the weight of containers, irrespective of the basis on which freight is charged. Gross weight is not available by commodity for inward cargo.

Australian Trading Ships

The following table shows particulars of all Australian trading ships of 150 gross tonnes or more engaged in the regular overseas, interstate or intrastate services at 30 June 1988.

SUMMARY OF THE AUSTRALIAN TRADING FLEET OF SHIPS 150 GROSS TONNES OR MORE, 30 JUNE 1988
(*Source*: Department of Transport and Communications)

Ships	*Number*	*DWT*	*Gross tonnes*
Coastal—			
Intrastate fleet—			
Australian owned and registered	23	352,392	241,840
Overseas owned and registered	1	9,332	6,298
Intrastate fleet	*24*	*361,724*	*248,138*
Interstate—			
Australian owned and registered	31	833,106	548,597
Overseas owned, Australian registered	5	68,213	50,219
Overseas owned and registered	3	49,900	29,322
Interstate fleet	*39*	*951,219*	*628,138*
Coastal fleet	*63*	*1,312,943*	*876,276*
Overseas—			
Australian owned and registered	20	1,615,863	917,263
Australian owned, overseas registered	1	41,151	29,223
Overseas owned, Australian registered	7	497,250	313,063
Overseas owned and registered	2	54,569	33,638
Overseas fleet	*30*	*2,208,833*	*1,293,187*
Total Australian fleet	**93**	**3,521,776**	**2,169,463**

Ships registered in Australia

The following table shows the number of ships registered in Australia at 30 June 1988.

SHIPS REGISTERED IN AUSTRALIA AT 30 JUNE 1988
(*Source*: Department of Transport and Communications)

	Nature of registration					
Location	*Demise chartered (a)*	*Other (b)*	*Government*	*Fishing*	*Pleasure*	*Total*
New South Wales	9	212	3	263	1,243	1,730
Victoria	3	103	6	164	409	685
Queensland	5	237	28	561	788	1,619
Western Australia	4	125	3	363	376	871
South Australia	2	41	5	238	189	475
Tasmania	—	56	4	205	152	417
Northern Territory	1	16	1	71	138	227
Total	**24**	**790**	**50**	**1,865**	**3,295**	**6,024**

(a) A demise chartered ship is a foreign owned ship chartered by way of a charter party to an Australian based operator, who is an Australian national and who under the charter party has whole possession and control of the ship, including the right to appoint the master and crew of the ship. *(b)* Relates to vessels used for commercial purposes.

The following table shows the number and gross tonnage of trading ships of 150 tonnes or more registered in Australia at 30 June 1988, classified according to year of construction, type of trade in which the ships were engaged, and place of manufacture.

AUSTRALIAN TRADING SHIPS OF 150 GROSS TONNES OR MORE BY AREA OF OPERATION, PLACE OF MANUFACTURE AND YEAR OF CONSTRUCTION
30 JUNE 1988
(*Source*: **Department of Transport and Communications**)

	Area of operation				*Place of manufacture*					
	Overseas and interstate ships		*Intrastate ships*		*Ships built in Australian yards*		*Ships built overseas*		*Total ships*	
Year of construction	*No.*	*Gross tonnes*	*No.*	*Gross tonnes*	*No.*	*Gross tonnes*	*No.*	*Gross tonnes*	*No.*	*Gross tonnes*
1976 and earlier	24	362,381	10	4,206	20	151,403	14	215,184	34	366,587
1977	8	254,649	1	2,851	3	50,333	6	207,167	9	257,500
1978	4	53,097	2	18,375	1	25,849	5	45,623	6	71,472
1979	6	156,160	—	—	—	—	6	156,160	6	156,160
1980	—	—	1	2,792	—	—	1	2,792	1	2,792
1981	6	221,251	1	1,155	—	—	7	222,406	7	222,406
1982	2	109,761	3	57,600	2	6,565	3	160,796	5	167,361
1983	3	126,227	3	151,423	—	—	6	277,650	6	277,650
1984	3	119,628	—	—	—	—	3	119,628	3	119,628
1985	2	97,317	2	483	2	483	2	97,317	4	97,800
1986	7	372,653	1	5,717	1	4,226	7	374,144	8	378,370
1987	1	23,547	1	3,536	1	3,536	1	23,547	2	27,083
1988	2	24,654	—	—	—	—	2	24,654	2	24,654
Total Australian fleet	**68**	**1,921,325**	**25**	**248,138**	**30**	**242,395**	**63**	**1,927,068**	**93**	**2,169,463**

Harbour Boards and Trusts

For detailed information *see* the individual State *Year Books*.

Overseas Shipping

Ship movements into and out of Australia

The following table shows the movement of ships and cargo to and from overseas countries, for the years 1981–82 to 1986–87

OVERSEAS SHIPPING: SHIP AND CARGO MOVEMENTS

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Arrivals—						
ship details						
ship number	5,839	5,516	6,131	6,904	6,824	6,707
DWT ('000 tonnes)	232,370	223,817	263,614	310,228	307,406	300,348
cargo discharged						
revenue tonnes ('000)	31,300	27,904	28,516	29,778	27,600	26,825
gross weigtht ('000 tonnes)	25,741	23,028	22,859	23,582	22,055	23,418
Departures—						
ship details						
ship number	5,798	5,706	6,025	6,760	6,622	6,507
DWT ('000 tonnes)	235,635	230,396	267,264	309,152	304,839	296,952
cargo loaded						
revenue tonnes ('000)	176,449	170,429	198,406	225,119	237,446	234,796
gross weight ('000 tonnes)	175,634	169,483	197,041	224,182	234,688	233,747

The following table shows particulars of overseas shipping which arrived at or departed from Australian ports according to the country of registration of ships.

OVERSEAS SHIPPING: SHIP DEPARTURES AND ARRIVALS BY COUNTY OF REGISTRATION, 1986–87

	Departures		*Arrivals*	
Country of registration	*Ship number*	*DWT ('000 tonnes)*	*Ship number*	*DWT ('000 tonnes)*
Australia	244	12,710	251	12,506
China, People's Republic of	340	13,877	340	13,725
Denmark	77	1,275	81	1,329
Germany, Federal Republic of	164	3,057	182	3,141
Greece	278	12,438	291	13,185
Hong Kong	232	12,338	243	12,147
India	90	3,388	89	3,418
Japan	1,206	96,461	1,244	97,196
Korea, Republic of	228	15,880	224	15,776
Liberia	468	21,358	477	21,996
Malaysia	96	2,270	95	2,225
Netherlands	116	1,537	108	1,475
New Zealand	98	1,600	138	2,246
Norway	78	3,593	82	3,667
Panama	1,037	30,066	1,047	29,855
Philippines	340	13,321	335	13,036
Singapore, Republic of	199	8,203	180	7,319
Sweden	13	384	15	440
Taiwan	149	12,396	154	12,574
United Kingdom	247	9,341	257	9,498
United States of America	13	335	10	244
USSR	156	2,935	161	2,916
Other countries	638	18,188	703	20,431
Total all countries	**6,507**	**296,952**	**6,707**	**300,348**
With cargo	*5,887*	*279,889*	*2,466*	*55,805*
In ballast	*620*	*17,063*	*4,241*	*244,542*

Overseas cargo according to country of registration of ships

The following table shows total overseas cargo, loaded and discharged, according to the country in which the ships were registered.

OVERSEAS CARGO LOADED AND DISCHARGED BY COUNTRY OF REGISTRATION OF SHIPS

('000 revenue tonnes)

	1984–85		*1985–86*		*1986–87*	
Country of registration	*Loaded*	*Discharged*	*Loaded*	*Discharged*	*Loaded*	*Discharged*
Australia	6,875	2,310	7,993	2,177	10,148	1,708
China, People's Republic of	8,267	376	10,511	373	10,439	349
Denmark	835	355	947	396	743	561
Germany, Federal Republic of	1,584	1,343	1,206	1,040	1,377	1,191
Greece	12,282	1,253	10,318	1,288	9,688	1,410
Hong Kong	7,059	873	9,513	628	9,494	727
India	868	114	1,744	50	2,689	20
Japan	83,926	3,761	88,694	4,042	86,182	3,220
Korea, Republic of	12,312	330	15,773	747	13,977	384
Liberia	24,155	4,300	17,721	2,671	14,530	3,869
Malaysia	1,864	376	1,942	381	1,576	449
Netherlands	1,223	294	784	294	800	420
New Zealand	530	849	780	1,112	675	701
Norway	5,768	1,294	3,939	888	2,030	906
Panama	18,356	2,720	20,819	3,245	23,286	2,897
Philippines	5,647	789	8,753	811	11,126	1,026
Singapore, Republic of	4,701	847	5,534	1,242	6,059	1,958
Sweden	606	353	240	229	162	237
Taiwan	7,352	108	10,000	183	11,107	93
United Kingdom	7,237	4,130	6,264	3,873	4,251	2,517
United States of America	51	—	100	14	115	5
USSR	1,797	409	2,359	412	1,782	366
Other countries	11,823	2,593	11,513	1,504	12,562	1,812
Total all ships	**225,119**	**29,778**	**237,446**	**27,600**	**234,796**	**26,825**

Shipping at principal ports

The following two tables show the movement of overseas shipping and cargo at Australian ports during 1986–87. The first provides details of the ships calling at Australian ports and the gross weight of cargo loaded and discharged. The second classifies cargo loaded and discharged in terms of whether or not it was transported in ISO containers.

OVERSEAS SHIP AND CARGO MOVEMENTS AT AUSTRALIAN PORTS, 1986–87

	Departures		*Cargo loaded*	*Arrivals*		*Cargo discharged*
	Ship details			*Ship details*		
Australian port	*Ship calls*	*DWT ('000 tonnes)*	*Gross weight ('000 tonnes)*	*Ship calls*	*DWT ('000 tonnes)*	*Gross weight ('000 tonnes)*
New South Wales—						
Sydney	1,192	28,529	6,352	1,185	27,901	3,028
Botany Bay	504	11,951	443	552	13,340	2,084
Newcastle	765	41,297	31,877	760	40,428	1,334
Port Kembla	244	15,450	9,906	254	16,099	720
Other	51	1,123	895	54	1,186	6
Total	*2,756*	*98,349*	*49,473*	*2,805*	*98,954*	*7,171*
Victoria—						
Melbourne	1,479	28,857	2,776	1,452	28,382	3,181
Geelong	304	9,583	2,923	307	9,615	1,985
Westernport	124	7,193	4,942	124	7,129	23
Other	130	4,289	1,322	130	4,289	207
Total	*2,037*	*49,922*	*11,963*	*2,013*	*49,415*	*5,395*
Queensland—						
Brisbane	965	19,851	4,726	996	20,412	1,293
Gladstone	355	22,716	16,605	353	22,539	912
Hay Point	429	35,272	29,633	430	35,040	—
Townsville	256	4,275	1,556	262	4,335	266
Weipa	87	3,403	2,365	87	3,342	49
Other	422	11,505	8,632	430	11,661	196
Total	*2,514*	*97,021*	*63,517*	*2,558*	*97,329*	*2,715*
South Australia—						
Port Adelaide	405	8,564	1,192	397	8,269	403
Port Lincoln	97	2,725	1,145	99	2,661	102
Port Pirie	74	1,733	729	72	1,658	37
Port Stanvac	46	1,939	443	51	2,307	1,044
Thevenard	51	1,061	693	52	1,008	—
Whyalla	45	1,097	523	47	1,152	223
Other	81	2,997	1,502	82	3,030	29
Total	*799*	*20,115*	*6,227*	*800*	*20,086*	*1,839*
Western Australia—						
Fremantle	1,057	25,445	7,097	1,069	25,549	3,287
Bunbury	172	5,752	3,825	174	5,812	497
Dampier	442	37,521	32,099	451	38,274	245
Geraldton	137	3,868	1,703	131	3,766	75
Port Hedland	408	38,510	32,299	403	37,783	129
Port Walcott	91	12,926	11,314	91	12,722	20
Yampi Sound	37	3,154	2,358	38	3,295	1
Other	227	5,544	2,611	223	5,374	226
Total	*2,571*	*132,720*	*93,308*	*2,580*	*132,574*	*4,479*
Tasmania—						
Hobart	178	3,797	598	181	3,870	231
Launceston	170	5,080	2,321	176	5,124	161
Port Latta	21	1,754	1,408	20	1,647	34
Other	156	3,551	762	153	3,462	84
Total	*525*	*14,182*	*5,089*	*530*	*14,102*	*509*
Northern Territory—						
Darwin	164	2,693	445	151	2,348	543
Other	158	5,471	3,724	159	5,398	766
Total	*322*	*8,164*	*4,169*	*310*	*7,746*	*1,309*
Total all ports	**11,524**	**420,473**	**233,747**	**11,596**	**420,206**	**23,418**

OVERSEAS CONTAINER AND NON-CONTAINER CARGO LOADED AND DISCHARGED AT AUSTRALIAN PORTS, 1986–87

('000 revenue tonnes)

	Loaded			*Discharged*		
Australian port	*Container cargo*	*Other cargo*	*Total*	*Container cargo*	*Other cargo*	*Total*
New South Wales—						
Sydney	783	5,775	6,558	1,340	2,594	3,934
Botany Bay	390	128	518	1,101	1,489	2,590
Newcastle	385	31,542	31,927	4	1,330	1,334
Port Kembla	13	9,913	9,926	2	726	728
Other	—	895	895	1	6	7
Total	*1,571*	*48,253*	*49,824*	*2,449*	*6,144*	*8,594*
Victoria—						
Melbourne	2,289	794	3,083	2,573	1,637	4,210
Geelong	39	2,888	2,927	10	1,978	1,987
Westernport	—	4,942	4,942	—	23	23
Other	—	1,322	1,322	1	207	207
Total	*2,328*	*9,946*	*12,274*	*2,583*	*3,844*	*6,427*
Queensland—						
Brisbane	860	4,029	4,889	425	1,197	1,622
Gladstone	—	16,605	16,605	1	911	912
Hay Point	—	29,633	29,633	—	—	—
Townsville	34	1,526	1,560	8	285	293
Weipa	—	2,365	2,365	—	49	49
Other	24	8,628	8,652	1	195	196
Total	*917*	*62,786*	*63,703*	*434*	*2,638*	*3,072*
South Australia—						
Port Adelaide	255	1,001	1,257	96	486	583
Port Lincoln	—	1,145	1,145	—	102	102
Port Pirie	—	729	729	—	37	37
Port Stanvac	—	443	443	—	1,044	1,044
Thevenard	—	693	693	—	—	—
Whyalla	—	525	525	—	223	223
Other	—	1,502	1,502	—	29	29
Total	*255*	*6,039*	*6,294*	*96*	*1,922*	*2,018*
Western Australia—						
Fremantle	654	6,543	7,197	571	3,065	3,637
Bunbury	3	3,846	3,848	—	500	500
Dampier	—	32,099	32,099	16	243	258
Geraldton	—	1,703	1,703	—	75	75
Port Hedland	—	32,299	32,299	2	131	133
Port Walcott	1	11,314	11,315	—	20	20
Yampi Sound	—	2,358	2,358	—	1	1
Other	5	2,606	2,611	1	226	226
Total	*662*	*92,769*	*93,430*	*589*	*4,260*	*4,849*
Tasmania—						
Hobart	80	522	602	2	236	239
Launceston	41	2,281	2,322	9	158	167
Port Latta	—	1,408	1,408	—	34	34
Other	99	666	765	20	69	89
Total	*219*	*4,877*	*5,097*	*32*	*497*	*529*
Northern Territory—						
Darwin	9	440	449	9	561	570
Other	—	3,724	3,724	—	766	766
Total	*9*	*4,164*	*4,173*	*9*	*1,327*	*1,336*
Total all ports	**5,962**	**228,834**	**234,796**	**6,192**	**20,632**	**26,825**

Overseas cargo according to trade area and ship type

The following table shows details of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas, classified according to the various trade areas of the world and by ship type.

OVERSEAS CARGO BY TRADE AREA OF PORT OF DISCHARGE/LOADING BY SHIP TYPE, 1986–87

('000 revenue tonnes)

Trade area	*General cargo ships*	*Tankers*	*Bulk carriers*	*Other ships*	*All ships*
		OUTWARD CARGO			
Europe	1,328	93	45,501	20	46,941
East Asia	1,276	335	27,832	35	29,478
Japan and North Asia	2,410	2,188	111,081	41	115,720
North America—East Coast	299	1,185	3,225	230	4,940
North America—West Coast	352	1,572	3,731	96	5,752
Central America and Caribbean	21	—	8	—	29
South America—East Coast	16	36	1,955	—	2,007
South America—West Coast	51	16	424	—	490
Africa—Mediterranean	5	9	2,377	—	2,392
West Africa	19	—	224	—	243
South and East Africa	58	21	276	1	356
Red Sea and Mediterranean Middle East	173	43	2,955	—	3,170
Middle East Gulf	206	2	4,307	—	4,515
West India	91	37	3,022	—	3,150
East India	56	12	765	—	833
South-East Asia	1,346	1,276	3,818	49	6,489
New Zealand	666	341	872	2	1,882
Papua New Guinea and Solomon Islands	409	508	800	5	1,723
Pacific Islands and other countries	223	655	86	—	964
Trade area not available for publication	29	—	3,696	—	3,724
Total outward overseas cargo	**9,036**	**8,328**	**216,954**	**478**	**234,796**
		INWARD CARGO			
Europe	1,932	505	148	96	2,682
East Asia	1,176	96	246	—	1,518
Japan and North Asia	1,261	334	2,847	8	4,450
North America—East Coast	619	711	760	5	2,096
North America—West Coast	932	484	1,456	8	2,879
Central America and Caribbean	1	1	20	—	22
South America—East Coast	74	15	25	—	115
South America—West Coast	12	—	9	—	22
Africa—Mediterranean	—	—	12	—	12
West Africa	—	15	66	—	81
South and East Africa	105	15	7	1	128
Red Sea and Mediterranean Middle East	58	625	142	—	824
Middle East Gulf	56	4,785	480	—	5,320
West India	22	143	59	64	288
East India	3	—	—	—	3
South-East Asia	762	2,789	612	97	4,261
New Zealand	717	275	169	1	1,162
Papua New Guinea and Solomon Islands	71	6	3	1	82
Pacific Islands and other countries	23	16	837	6	882
Trade area not available for publication	—	—	—	—	—
Total inward overseas cargo	**7,824**	**10,814**	**7,898**	**289**	**26,825**

Overseas cargo according to trade area and type of service

The following table shows details of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas, classified according to the various trade areas of the world and by type of shipping service.

OVERSEAS CARGO LOADED AND DISCHARGED IN AUSTRALIA BY TRADE AREA OF PORT OF DISCHARGE/LOADING BY TYPE OF SERVICE, 1986–87

('000 revenue tonnes)

	Outward overseas cargo			*Inward overseas cargo*		
	Liner service			*Liner service*		
Trade area	*Conference*	*Non-conference*	*Other ships*	*Conference*	*Non-conference*	*Other ships*
Europe	703	365	45,873	1,259	478	945
East Asia	386	482	28,610	336	645	537
Japan and North Asia	900	420	114,400	487	187	3,775
North America—East Coast	219	249	4,472	382	88	1,626
North America—West Coast	219	267	5,266	423	515	1,942
Central America and Caribbean	17	2	10	1	1	21
South America—East Coast	1	26	1,981	3	13	99
South America—West Coast	—	—	490	1	8	13
Africa—Mediterranean	—	1	2,392	—	—	12
West Africa	—	1	243	—	—	81
South and East Africa	1	31	324	—	56	73
Red Sea and Mediterranean Middle East	81	49	3,040	3	53	769
Middle East Gulf	58	119	4,338	11	1	5,308
West India	47	68	3,035	12	6	269
East India	17	37	779	2	—	1
South-East Asia	698	158	5,633	524	125	3,612
New Zealand	144	459	1,279	131	559	472
Papua New Guinea and Solomon Islands	198	77	1,448	20	11	51
Pacific Islands and other countries	135	37	792	4	13	865
Trade area not available for publication	—	14	3,710	—	—	—
Total overseas cargo	**3,821**	**2,859**	**228,116**	**3,598**	**2,758**	**20,469**

Overseas cargo commodity details

The following three tables classify inward and outward overseas cargo according to the Australian Transport Freight Commodity Classification (ATFCC). The second and third tables also provide details of the type of shipping service by which cargo was transported.

INWARD AND OUTWARD OVERSEAS SEA CARGO: BY SELECTED COMMODITIES, 1985–86 ($'000)

ATFCC Division	*Title*	*Inward cargo*	*Outward cargo*
00	Live animals	51	300,762
01	Meat and meat preparations	14,281	2,156,225
02	Dairy products and eggs	80,296	457,281
03	Fish, crustaceans and molluscs and preparations thereof	403,338	489,767
04	Cereals and cereal preparations *(a)*	72,067	2,673,878
05	Fruit and vegetables; sugar cane *(b)*	264,795	498,866
06	Sugar, sugar preparations and honey	27,943	51,696
09	Coffee, tea, cocoa, spices, margarine and miscellaneous edible products and preparations *(a) (b)*	415,896	105,258
11	Beverages, tobacco and manufactures *(a)*	323,455	104,085
21	Hides, skins and furskins, raw *(a)*	1,993	428,324
24	Wood, timber and cork *(a)*	294,103	16,157
25	Pulp and waste paper	164,437	27,644
26	Textile fibres (not wool tops) and wastes (not manufactured into yarn or fabric)	150,168	3,889,010
27	Crude fertilizers and minerals (excluding coal, petroleum and precious stones) *(a) (b)*	214,683	88,679
28	Metalliferous ores and metal scrap *(a)*	39,664	2,953,827
32	Coal, coke and briquettes *(a)*	2,802	5,346,861
33	Petroleum, petroleum products and related materials *(b)*	1,715,347	1,330,670
51	Organic and inorganic chemicals *(a) (b)*	934,480	72,282
53	Dyeing, tanning and colouring materials *(a)*	176,581	32,799
54	Medicinal and pharmaceutical products *(a)*	263,962	43,975
55	Essential oils, perfume materials, toilet, polishing and cleaning preparations *(b)*	182,304	48,832
56	Fertilizers, manufactured	138,089	5,332
58	Plastic materials, artificial resins and cellulose esters and ethers *(a) (b)*	579,969	71,638
59	Explosives and other chemical materials and products *(a) (b)*	366,916	83,973
62	Rubber manufactures, n.e.s.	430,898	39,639
63	Cork and wood manufactures (excluding furniture) *(a) (b)*	158,765	7,009
64	Paper, paperboard and articles of paper pulp, of paper or of paperboard *(b)*	980,767	98,462
65	Textile yarns, fabrics, made-up articles, n.e.s. and related products *(a) (b)*	1,658,328	60,196
66	Non-metallic mineral manufactures, n.e.s. *(a) (b)*	557,517	67,113
67	Iron and steel *(a) (b)*	573,166	538,144
68	Non-ferrous metals *(a) (b)*	129,311	1,378,774
69	Manufactures of metal, n.e.s.*(b)*	863,019	203,894
71	Machinery, equipment, apparatus and appliances *(a) (b)*	7,306,964	836,924
78	Road vehicles and other transport equipment	2,725,493	456,980
82	Furniture and parts thereof	223,310	27,632
84	Articles of apparel and clothing accessories and footwear	705,406	11,817
87	Professional, scientific and controlling apparatus, n.e.s.; photographic apparatus, equipment and supplies; optical goods, n.e.s.; watches and clocks *(b)*	733,854	116,567
89	Printed matter, plastic wares, toys and other miscellaneous manufactured articles *(a) (b)*	1,746,780	127,737
93	Special transactions and commodities not classified by kind	1,294,229	247,494
99	Coins, n.e.s. temporary ships/structures *(c)*	1,082,082	5,254,441
	Other	415,562	397,542
Total all commodities		**28,413,071**	**31,148,189**

(a) Excludes export commodities regarded as confidential. These items are included in Division 99. *(b)* Excludes import commodities regarded as confidential. These items are included in Division 99. *(c)* Includes commodities regarded as confidential.

INWARD OVERSEAS SEA CARGO BY COMMODITY BY TYPE OF SERVICE
($'000)

ATFCC Section and title	*Year ended 30 June*	*Liner Service*		*Other*	*Total*
		Conference	*Non-conference*		
0 Food and live animals *(a)*	1986	752,781	310,869	126,050	1,189,700
	1987	850,058	360,330	122,315	1,332,703
1 Beverages and tobacco *(a)*	1986	162,016	90,991	36,880	289,887
	1987	175,541	119,722	28,192	323,455
2 Crude materials, inedible, except fuels *(a)*	1986	337,118	305,606	345,192	987,915
	1987	401,049	337,512	295,218	1,033,779
3 Mineral fuels, lubricants and related materials *(a)*	1986	22,125	16,816	1,707,105	1,746,047
	1987	35,526	31,394	1,655,349	1,722,268
4 Animal and vegetables oils, fats and waxes *(a)*	1986	31,399	8,686	50,656	90,741
	1987	34,551	11,773	43,174	89,498
5 Chemical and related products, n.e.s. *(a)*	1986	1,130,930	628,311	629,621	2,388,863
	1987	1,352,053	724,936	565,312	2,642,300
6 Manufactured goods classified chiefly by material *(a)*	1986	2,755,513	1,354,252	850,254	4,960,019
	1987	3,113,412	1,674,311	651,388	5,439,111
7 Machinery and transport equipment *(a)*	1986	5,526,850	1,861,316	3,486,775	10,874,942
	1987	5,410,942	2,098,204	2,523,311	10,032,457
8 Miscellaneous manufactured articles *(a)*	1986	1,872,010	961,890	251,369	3,085,268
	1987	2,134,161	1,114,768	160,421	3,409,350
9 Commodities and transactions, n.e.s. *(b)*	1986	1,045,398	349,806	672,150	2,067,354
	1987	1,351,350	451,529	585,271	2,388,149
Total all commodities	**1986**	**13,636,141**	**5,888,544**	**8,156,052**	**27,680,737**
	1987	**14,858,643**	**6,924,478**	**6,629,951**	**28,413,071**

(a) Excludes commodities regarded as confidential. These items are included in Section 9. *(b)* Includes commodities regarded as confidential.

OUTWARD OVERSEAS SEA CARGO BY COMMODITY BY TYPE OF SERVICE
($'000)

ATFCC Section and title	*Year ended 30 June*	*Liner service*		*Other*	*Total*
		Conference	*Non-conference*		
0 Food and live animals *(a)*	1986	2,265,578	494,878	4,279,532	7,039,988
	1987	2,938,248	776,497	3,192,197	6,906,942
1 Beverages and tobacco *(a)*	1986	27,073	11,665	4,908	43,646
	1987	53,159	35,158	15,769	104,085
2 Crude materials, inedible, except fuels *(a)*	1986	2,488,206	1,135,051	3,118,662	6,741,919
	1987	3,191,835	1,492,751	2,840,459	7,525,045
3 Mineral fuels, lubricants and related materials *(a)*	1986	28,779	11,375	6,956,182	6,996,336
	1987	41,170	19,961	6,616,423	6,677,555
4 Animal and vegetables oils, fats and waxes *(a)*	1986	18,516	13,364	46,900	78,779
	1987	13,851	11,095	23,168	48,114
5 Chemical and related products, n.e.s. *(a)*	1986	132,293	100,904	50,103	283,299
	1987	187,205	127,762	43,864	358,831
6 Manufactured goods classified chiefly by material *(a)*	1986	514,531	435,512	671,719	1,621,762
	1987	791,655	599,080	1,050,392	2,441,126
7 Machinery and transport equipment *(a)*	1986	520,913	241,784	94,202	856,899
	1987	741,291	376,468	176,144	1,293,903
8 Miscellaneous manufactured articles *(a)*	1986	155,503	70,400	23,543	249,446
	1987	171,412	94,219	18,124	283,754
9 Commodities and transactions, n.e.s. *(b)*	1986	976,024	487,526	3,899,133	5,362,682
	1987	1,042,328	623,014	3,843,491	5,508,834
Total all commodities	**1986**	**7,127,414**	**3,002,458**	**19,144,884**	**29,274,757**
	1987	**9,172,154**	**4,156,003**	**17,820,032**	**31,148,189**

(a) Excludes commodities regarded as confidential. These items are included in Section 9. *(b)* Includes commodities regarded as confidential.

Coastal Shipping Cargo

The following table shows the gross weight of cargo loaded at an Australian port for discharge at another Australian port. Both inter- and intrastate cargo movements are included. Cargo loaded at, or to be discharged at, an overseas port is excluded.

COASTAL CARGO LOADED AND DISCHARGED AT AUSTRALIAN PORTS, 1986–87
('000 gross weight tonnes)
(*Source*: Department of Transport and Communications)

	Loaded			*Discharged*		
Australian port	*Interstate*	*Intrastate*	*Total*	*Interstate*	*Intrastate*	*Total*
New South Wales—						
Port Jackson	96	2	98	2,994	883	3,877
Botany Bay	628	364	992	3,987	—	3,987
Newcastle	562	100	662	3,790	888	4,678
Port Kembla	1,433	203	1,636	5,481	44	5,525
Other	—	1,444	1,444	56	226	282
Total	*2,719*	*2,113*	*4,832*	*16,308*	*2,041*	*18,349*
Victoria—						
Melbourne	1,121	—	1,121	1,741	—	1,741
Geelong	945	168	1,113	806	—	806
Westernport	8,382	—	8,382	481	—	481
Other	3	158	161	151	164	315
Total	*10,451*	*326*	*10,777*	*3,179*	*164*	*3,343*
Queensland—						
Brisbane	1,091	1,275	2,366	4,532	503	5,035
Gladstone	1,017	458	1,475	79	6,996	7,075
Mackay	166	4	170	84	274	358
Townsville	23	3	26	151	298	449
Weipa	—	6,654	6,654	—	18	18
Other	551	54	605	14	575	589
Total	*2,848*	*8,448*	*11,296*	*4,860*	*8,664*	*13,524*
South Australia—						
Adelaide	460	63	523	711	1,161	1,872
Port Pirie	104	—	104	66	31	97
Port Stanvac	363	15	378	687	618	1,305
Whyalla	562	—	562	1,184	186	1,370
Other	2,171	2,100	4,271	136	119	255
Total	*3,660*	*2,178*	*5,838*	*2,784*	*2,115*	*4,899*
Western Australia—						
Fremantle	609	728	1,337	1,978	469	2,447
Bunbury	74	10	84	1	113	114
Port Hedland	4,736	11	4,747	—	144	144
Yampi Sound	1,387	2	1,389	—	24	24
Other	632	241	873	17	469	486
Total	*7,438*	*992*	*8,430*	*1,996*	*1,219*	*3,215*
Tasmania—						
Hobart	502	60	562	797	130	927
Burnie	452	131	583	444	72	516
Devonport	439	—	439	402	2	404
Launceston	521	18	539	1,533	20	1,553
Other	639	13	652	32	32	64
Total	*2,553*	*222*	*2,775*	*3,208*	*256*	*3,464*
Northern Territory—						
Darwin	14	6	20	78	5	83
Other	471	6	477	8	6	14
Total	*485*	*12*	*497*	*86*	*11*	*97*
Total all ports	**30,154**	**14,291**	**44,445**	**32,421**	**14,470**	**46,891**

RAILWAYS

Government Railways

The six government owned railway systems are operated by the State Rail Authority of New South Wales (SRA), 'V/Line' operated by the State Transport Authority of Victoria, Queensland Government Railways (QR), Western Australian Government Railways Commission (WAGRC), the State Transport Authority of South Australia (STA), and the Australian National Railways Commission (ANRC).

Data contained in the following tables have been compiled from a number of sources. These sources include annual reports of the various rail authorities; data supplied by the Rail Industry Council; and data collected directly by the Australian Bureau of Statistics.

As the Australian National system includes routes in more than one State, and the Victorian system extends into New South Wales, the system route-kilometres shown in the following table do not represent route-kilometres within each State and Territory.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY SYSTEM
(kilometres)

30 June	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Australian National*	*Total*
1982	9,773	5,812	9,970	141	5,609	7,638	38,943
1983	9,883	5,815	9,979	152	5,610	7,647	39,086
1984	9,884	5,783	10,231	152	5,623	7,450	39,123
1985	9,908	5,748	10,231	153	5,563	7,465	39,068
1986	9,909	5,372	10,244	153	5,553	7,333	38,544
1987	9,909	5,257	10,210	149	5,553	7,315	38,393

Summary of Operations

Particulars of train-kilometres, passenger journeys, freight-tonnes carried, and freight tonne-kilometres included in this section refer only to operations for which revenue is received.

GOVERNMENT RAILWAYS: SUMMARY OF OPERATION, SYSTEMS, 1986–87

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Australian National*	*Aust.*
Train-kilometres ('000) *(a) (b)*—							
Suburban passenger	26,666	13,600	5,659	n.a.	2,177	—	n.a.
Country passenger	10,416	7,507	3,653	—	915	2,385	24,876
Goods *(b)*	25,155	7,292	25,740	—	6,344	8,196	72,727
Total	**62,237**	**28,399**	**35,051**	**n.a.**	**9,436**	**10,581**	**n.a.**
Passenger journeys ('000) *(c)*—							
Suburban	220,705	92,600	43,002	11,798	9,831	—	377,942
Country *(d)*	3,595	5,222	1,332	—	214	329	10,692
Total	**224,300**	**97,822**	**44,334**	**11,798**	**10,051**	**329**	**388,634**
Freight—							
Tonnes carried ('000) *(d)*	54,600	10,597	75,169	—	21,264	12,900	174,530
Net tonne-kilometres (million) *(e)*	13,540	3,531	20,871	—	4,062	6,873	48,877

(a) One train (i.e. a complete unit of locomotive and vehicles, electric train set, or rail motor) travelling one kilometre for revenue purposes. *(b)* Includes mixed train-kilometres. *(c)* Based on ticket sales making allowances for periodical tickets. Tickets sold at concession rates are counted as full journeys. *(d)* Inter-system traffic is included in the total for each system over which it passes. *(e)* One tonne carried one kilometre.

GOVERNMENT RAILWAYS: TRAIN-KILOMETRES (a)
('000 kilometres)

Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Australian National*	*Aust.*
1981–82	59,960	31,136	32,696	3,921	10,681	12,089	150,482
1982–83	61,507	30,166	30,885	3,894	10,560	10,795	147,806
1983–84	61,659	30,702	33,303	3,697	10,333	10,238	149,932
1984–85	66,025	30,794	34,293	n.a.	11,098	11,306	n.a.
1985–86	72,011	29,809	35,116	n.a.	10,364	10,513	n.a.
1986–87	n.a.	28,399	35,051	n.a.	9,436	10,581	n.a.

(a) One train (i.e. a complete unit of locomotive and vehicles, electric train set, or rail motor) travelling one kilometre for revenue purpose.

GOVERNMENT RAILWAYS: FREIGHT CARRIED, NET TONNE-KILOMETRES, AND FREIGHT EARNINGS, SYSTEMS

Year	*NSW*	*Vic.*	*Qld*	*WA*	*Australian National*	*Aust.*
FREIGHT CARRIED ('000 tonnes)						
1981–82	40,393	11,623	43,659	19,776	11,882	127,333
1982–83	41,350	8,570	43,706	19,791	10,676	124,093
1983–84	46,594	10,486	53,150	19,870	12,083	142,183
1984–85	47,800	11,892	65,452	22,085	12,870	160,099
1985–86	53,800	10,516	73,599	20,877	13,049	171,841
1986–87	54,600	10,597	75,169	21,264	12,900	174,530
NET TONNE-KILOMETRES (million)						
1981–82	10,705	3,427	13,079	4,390	5,731	37,332
1982–83	9,117	2,468	13,177	4,384	5,348	34,494
1983–84	11,131	3,111	15,391	3,903	5,912	39,448
1984–85	12,393	3,543	18,438	4,328	6,270	44,972
1985–86	13,740	3,094	20,450	4,005	7,081	48,370
1986–87	13,540	3,531	20,871	4,062	6,873	48,877
FREIGHT EARNINGS ($'000)						
1981–82	431,157	137,676	481,193	175,054	165,214	1,390,294
1982–83	452,626	108,803	508,223	183,632	161,480	1,414,764
1983–84	559,876	160,841	669,362	180,439	192,223	1,762,741
1984–85	641,100	182,259	828,926	209,627	213,698	2,075,610
1985–86	736,795	168,641	905,494	200,974	237,345	2,249,249
1986–87	739,250	174,700	960,950	200,731	238,097	2,313,728

GOVERNMENT RAILWAYS: GROSS EARNINGS, SYSTEMS
($ million)

Year	*NSW*	*Vic.(a)*	*Qld*	*SA (b)*	*WA*	*Australian National (c)*	*Aust.*
1981–82	663.2	260.2	520.3	5.7	216.3	195.3	1,861.0
1982–83	694.8	248.1	549.9	6.3	229.4	193.9	1,922.4
1983–84	823.1	301.7	718.0	8.1	233.0	227.1	2,311.0
1984–85	938.6	351.5	882.5	10.7	263.6	252.5	2,699.4
1985–86	1,082.4	335.0	966.0	14.6	262.0	283.3	2,943.3
1986–87	1,121.2	481.3	1,028.9	14.4	258.2	283.3	3,187.3

(a) Includes Metrail for years 1983–84 to 1986–87. *(b)* Includes urban rail operations only. *(c)* Includes Tasmania.

Non-government Railways

The Australian non-government railways covered in this section are those which operate outside industrial estates, harbour precincts, mines and quarries with a route distance exceeding two kilometres.

The figures in the following table have been compiled from information supplied to the Bureau of Transport and Communications Economics (BTCE) by the various railway operators. All operators provided details of tonnes carried and most provided details of tonne-kilometres performed. In a few cases, the tonne-kilometre figures have been estimated by the BTCE using the advised average length of haul.

TRAFFIC TASK PERFORMED BY AUSTRALIAN NON-GOVERNMENT RAILWAYS

Year	*Iron ore railways*	*Sugar tramways*	*Coal railways (a)*	*Other non-government railways*	*Total (a)*
		TONNES CARRIED (million)			
1981–82	83.0	21.6	8.7	12.2	125.6
1982–83	78.2	20.9	7.1	8.0	114.1
1983–84	71.5	21.6	7.0	10.9	111.0
1984–85	86.9	24.0	7.9	11.1	129.9
1985–86	86.8	21.6	8.1	10.3	126.8
1986–87	89.9	23.1	7.8	11.1	131.9
		TONNE-KILOMETRES (million)			
1981–82	26,669	367	104	244	27,384
1982–83	24,432	355	86	171	25,045
1983–84	22,646	366	85	226	23,324
1984–85	27,649	408	98	223	28,378
1985–86	28,517	368	116	201	29,202
1986–87	29,339	393	116	220	30,068

(a) Includes transfers to and from government railways.

TRAM, BUS, AND FERRY SERVICES

Trams

At 30 June 1988, tram services were in operation in Melbourne and in Adelaide. Regular tram services ceased to operate in Ballarat on 19 September 1971 and in Bendigo on 16 April 1972. However, services are operated in both cities, on an irregular basis, but generally during holiday periods, as a tourist attraction.

In many parts of Australia, private lines used for special purposes in connection with the timber, mining, sugar, or other industries are often called tramways, but they are more properly railways, and the traffic on them has nothing in common with that of the street tram used for the conveyance of passengers.

Buses

Services are operated by government or municipal authorities and private operators. Statistics are collected for government and municipal bus services which are located in all capital cities and Newcastle, New South Wales; Rockhampton, Queensland; Launceston and Burnie, Tasmania; and for country road services operated by the Victorian Railways, the State Rail Authority of New South Wales, the Western Australian Government Railways, and the Australian National Railways.

Ferries

Ferry passenger services are operated in the following States: New South Wales, at Sydney, Newcastle and various other waterways; Western Australia, on the Swan River at Perth; Tasmania, on the Mersey River at Devonport and on the Derwent River at Hobart; and Queensland, on the Brisbane River at Brisbane. Control is exercised by both government authorities and private operators.

Government and municipal tram and bus services

Because of the development in recent years of the various forms of public road transport under the control of single authorities and the gradual replacement of tram services by bus services, it is not possible to obtain separate statistics for all phases of the activities of each form of transport, particularly financial operations.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL, STATES AND TERRITORIES, 1986–87

	NSW	*Vic.*	*Qld*	*SA*	*WA (a)*	*Tas.*	*NT*	*ACT*	*Aust.*
Route-kilometres at 30 June									
Tram (kilometres)	..	332	..	11	..	..	..	..	343
Bus (kilometres)	1,213	n.a.	820	1,022	7,609	486	468	1,524	n.a.
Vehicle-kilometres									
Tram ('000)	..	24,000	..	863	..	..	..	..	24,863
Bus ('000)	67,292	57,000	26,071	39,562	48,340	9,775	2,284	16,192	266,516
Rolling stock at 30 June									
Tram (number)	..	627	..	21	..	..	..	..	648
Bus (number)	1,699	1,289	593	736	910	266	46	400	5,939
Passenger journeys									
Tram ('000)	..	113,300	..	2,458	..	..	..	..	115,758
Bus ('000)	195,980	86,100	42,118	46,694	52,541	14,245	1,840	24,152	463,670
Gross revenue *(b)*									
Tram and bus ($'000)	162,745	n.a.	33,691	45,421	58,572	7,806	1,722	17,201	n.a.
Working expenses *(c)*									
Tram and bus ($'000)	244,118	n.a.	63,808	115,579	89,291	21,387	5,272	34,528	n.a.
Net revenue									
Tram and bus ($'000)	–81,373	n.a.	–30,116	–70,158	–30,719	–13,581	–3,550	–7,327	n.a.
Employees at 30 June									
Train and bus (number)	6,319	n.a.	1,541	*(d)*1,566	2,250	561	114	844	n.a.

(a) Excludes operations of Eastern Goldfields Transport Board. *(b)* Excludes government grants. *(c)* Includes provision of reserves for depreciation, etc. where possible. Minus sign (–) denotes deficit. *(d)* Bus and tram crew only.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL

	1981–82	*1982–83*	*1983–84*	*1984–85(a)*	*1985–86*	*1986–87*
Route-kilometres at 30 June						
Tram (kilometres)	231	232	n.a.	340	340	343
Bus (kilometres)	13,445	13,553	n.a.	n.a.	n.a.	n.a.
Vehicle kilometres						
Tram ('000)	24,836	24,958	n.a.	24,747	24,778	24,863
Bus ('000)	209,104	212,423	n.a.	252,038	255,753	266,516
Rolling stock at 30 June						
Tram (number)	724	713	n.a.	683	663	648
Bus (number)	4,973	5,018	n.a.	5,942	5,918	5,939
Passenger journeys						
Tram ('000)	*(b)*103,479	n.a.	n.a.	112,071	115,111	115,758
Bus ('000)	*(b)*343,216	*(b)(c)*325,649	n.a.	454,460	460,281	463,670

(a) Excludes operations of Eastern Goldfields Transport Board in Western Australia. *(b)* Excludes details of metropolitan tram and bus services in South Australia. *(c)* Exclude details of metropolitan tram and bus services in Victoria.

MOTOR VEHICLES

Tables in this section include vehicles owned by private individuals, local government authorities, State governments, and the Commonwealth Government (excluding those belonging to the defence services).

Survey of Motor Vehicle Usage

The triennial Survey of Motor Vehicle Usage (SMVU) is undertaken by the ABS in response to a wide range of users' needs to monitor the details for motor vehicle usage within Australia. Details obtained are mainly used to determine the total distance travelled by vehicles, classified according to area and purpose of travel. Information is also obtained on average load carried, vehicle usage (i.e. for hire and reward, ancillary or other), fuel consumption, occupant-kilometres, driver characteristics and other important variables.

The statistics are used for many decisions regarding the monitoring, planning and policy issues that affect all Australian motorists.

The 1988 SMVU is currently underway and consists of some 67,000 vehicles (including for the first time since 1979 details pertaining to buses) selected from State/Territory motor registry files. Preliminary results from this survey are due to be released in April 1989 and final results in October 1989.

The following table, taken from the most recent SMVU publication (1985), shows that motor vehicles in Australia travelled a total of 140,427 million kilometres. Cars and station wagons travelled 106,574 million kilometres. Of this 22 per cent was for business purposes, a further 23 per cent for travel to and from work and 55 per cent for private purposes. Rigid trucks travelled a total of 7,627 million kilometres, while articulated trucks travelled 3,588 million kilometres in total.

The relative standard errors (Rel. SE %) indicate the extent to which the estimates can vary by chance because only a sample and not the total vehicle population was enumerated.

TOTAL ANNUAL KILOMETRES BY VEHICLE TYPE AND PURPOSE OF TRAVEL AUSTRALIA, TWELVE MONTHS ENDED 30 SEPTEMBER 1985

	Laden business		*Unladen business*		*Total business (a)*		*To and from work paid and unpaid*		*Private*		*Total*	
Type of vehicle	*Million kilo-metres*	*Rel. SE (%)*	*Million kilo-metres*	*Rel. SE (%)*	*Million kilo-metres*	*Rel. SE (%)*	*Million kilo-metres*	*Rel. SE (%)*	*Million kilo-metres*	*Rel. SE (%)*	*Million kilo-metres*	*Rel. SE (%)*
Cars and station wagons	..	..	..	..	22,985.5	2.5	25,035.6	1.7	58,522.4	1.1	106,573.5	0.8
Motor cycles	..	..	..	..	203.0	9.6	857.9	4.4	1,215.4	4.7	2,276.2	3.2
Utilities and panel vans	7,403.0	3.4	3,099.7	5.0	10,978.3	2.8	3,659.9	3.8	5,483.2	3.5	20,121.3	1.8
Rigid trucks	4,986.0	1.9	2,029.8	2.3	7,015.7	1.7	316.1	6.8	295.2	7.8	7,627.0	1.6
Articulated trucks	2,638.6	1.2	917.4	1.5	3,555.9	1.0	26.9	8.0	4.9	13.5	3,587.7	1.0
Other truck type vehicles	..	..	..	..	227.6	6.0	3.8	35.1	10.3	72.5	241.6	6.6
Total	**15,027.6**	**1.8**	**6,046.8**	**2.7**	**44,966.0**	**1.5**	**29,900.1**	**1.5**	**65,561.3**	**1.0**	**140,427.4**	**0.7**

(a) Includes the total kilometres travelled for business purposes of cars, station wagons, motor cycles and utilities and panel vans predominantly used for private purposes. The dissection of business travel into laden/unladen was not sought for these vehicles.

Motor vehicles on register

Censuses of motor vehicles have been conducted in respect of 31 December 1955 and 1962, and 30 September 1971, 1976, 1979, 1982 and 1985. The 1988 census is presently being conducted and results are expected to be released in July 1989. At these census dates considerably more information concerning the particulars shown in the tables following is available. Summary details of motor vehicles on the register are compiled as at 30 June each year from information made available by the various motor vehicle registration authorities in the States and Territories. Figures from the censuses differ from the corresponding year's figures compiled for the annual vehicles on register series. These inconsistencies result from different dates of recording and because, for some States and Territories, the annual figures include vehicles where the registration has lapsed but the details have not been removed from the register, whereas the census excludes such vehicles.

MOTOR VEHICLE CENSUS: 30 SEPTEMBER 1985
('000)

State or Territory	*Motor cars and station wagons*	*Utilities*	*Panel vans*	*Trucks*		*Other truck type vehicles*	*Buses*	*Motor cycles*	*Total (a)*
				Rigid	*Articulated*				
New South Wales	2,169.7	170.8	204.8	165.5	16.7	13.9	43.2	115.8	2,900.5
Victoria	1,887.5	134.9	55.7	181.0	12.4	12.6	13.3	78.8	2,376.3
Queensland	1,041.0	201.9	82.3	56.7	8.6	4.5	10.2	74.1	1,479.4
South Australia	657.0	50.9	36.3	48.0	5.1	6.8	3.6	41.0	848.7
Western Australia	631.0	64.3	68.9	67.6	4.9	7.7	6.2	37.0	887.6
Tasmania	200.4	25.6	14.3	16.1	1.5	2.8	1.7	6.4	268.7
Northern Territory	40.6	13.9	5.1	5.3	0.9	0.3	0.7	4.3	71.1
Australian Capital Territory	107.0	6.1	4.7	3.5	0.2	0.7	1.1	4.3	127.6
Australia	6,734.2	668.4	472.1	543.7	50.2	49.4	80.1	361.6	8,959.7

(a) Excludes tractors, plant and equipment, caravans and trailers.

MOTOR VEHICLES ON REGISTER, BY TYPE OF VEHICLE, AUSTRALIA
('000)

30 June	*Motor cars and station wagons*	*Utilities, trucks, panel vans, other truck type vehicles and buses*	*Total (excludes motor cycles)*	*Motor cycles*
1983	6,469.6	1,718.3	8,187.8	402.0
1984	6,636.2	1,798.2	8,434.4	398.4
1985	6,842.5	1,886.6	8,729.1	389.2
1986	6,985.4	1,930.7	8,916.0	374.5
1987	7,072.8	1,949.8	9,022.7	351.0
1988	7,243.6	1,977.6	9,221.1	323.3

MOTOR VEHICLES (a) ON REGISTER PER 1,000 OF POPULATION
STATES AND TERRITORIES

30 June	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1983	503.7	539.5	565.2	541.1	566.8	562.9	433.9	471.7	532.4
1984	509.3	554.1	574.2	555.8	574.0	571.1	453.9	486.1	542.2
1985	520.7	571.1	573.7	572.0	589.4	588.0	467.4	488.8	553.9
1986	526.0	575.1	574.3	582.5	590.7	596.8	478.1	483.2	558.2
1987	522.3	581.0	562.6	575.5	582.0	598.1	459.7	497.3	555.3
1988	523.8	589.8	568.0	580.3	587.4	607.2	440.5	498.5	559.9

(a) Excludes motor cycles, tractors, plant and equipment, caravans and trailers.

Drivers' and riders' licences

At 30 June 1988, the numbers of licences in force to drive or ride motor vehicles were: New South Wales—3,839,904; Victoria—2,696,706; Queensland—1,580,548 (est.); Western Australia—918,290; South Australia—863,796; Tasmania—274,248; Northern Territory—93,136; Australian Capital Territory—168,501.

Registrations of new motor vehicles

Particulars of registrations of new motor vehicles are shown by type of vehicle in preliminary monthly publications, and by type and make of vehicle in monthly and annual publications of motor vehicle registrations.

In these statistics 'registrations' means registrations processed by the motor vehicle registration authorities in the States and Territories during the period.

REGISTRATIONS OF NEW MOTOR VEHICLES, BY TYPE OF VEHICLE

				Trucks					
State or Territory	*Motor cars and station wagons*	*Utilities*	*Panel vans*	*Rigid*	*Articulated*	*Other truck type vehicles (a)*	*Buses*	*Total (excludes motor cycles)*	*Motor cycles*
1987–88—									
NSW	6,761	8,750	10,948	8,804	816	499	3,115	169,693	5,855
Vic.	103,907	4,724	1,008	10,620	818	425	659	122,161	3,847
Qld	59,355	8,584	2,292	2,238	515	260	620	73,864	3,841
SA	29,915	2,214	1,223	1,630	279	221	208	35,690	1,890
WA	36,040	3,358	2,045	4,298	191	113	612	46,657	2,215
Tas.	8,597	917	362	591	101	60	75	10,703	279
NT	2,660	932	139	101	80	13	91	4,016	420
ACT	6,968	342	275	314	11	11	115	8,036	185
Aust.	**384,203**	**29,821**	**18,292**	**28,596**	**2,811**	**1,602**	**5,495**	**470,820**	**18,532**
1986–87	376,080	32,485	20,143	28,693	3,149	1,664	6,587	468,801	23,199
1985–86	476,488	46,499	33,138	39,033	4,029	2,159	10,868	612,214	35,906
1984–85	510,893	54,507	45,582	44,422	3,627	1,952	13,847	674,830	45,879
1983–84	461,018	46,140	(b)46,779	33,397	2,581	1,630	(b)12,169	603,714	46,684
1982–83	453,523	43,682	52,364	31,514	2,426	1,834	4,680	590,023	61,061
1981–82	471,255	52,035	48,009	40,062	3,665	2,218	4,998	622,242	71,691

(a) Non-freight carrying vehicles. (b) From August 1983 in NSW, the body-type classification applied by the registration authority for small bus-type vehicles changed from panel vans to buses.

Road Traffic Accidents

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES (a) (ADMISSIONS TO HOSPITALS): NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED, 1986

				Per 100,000 of mean population			*Per 10,000 motor vehicles registered (b)*		
State or Territory	*Number of accidents*	*Persons killed*	*Persons injured*	*Number of accidents*	*Persons killed*	*Persons injured*	*Number of accidents*	*Persons killed*	*Persons injured*
NSW	8,043	1,029	9,042	145.4	18.6	163.4	26.4	3.4	29.7
Vic.	7,348	668	8,866	176.6	16.1	213.1	29.7	2.7	35.8
Qld	3,585	481	4,029	136.6	18.5	153.6	22.9	3.1	25.7
SA	2,569	288	2,968	185.8	20.8	214.7	30.7	3.4	35.5
WA	2,352	228	2,720	161.3	15.6	186.6	26.5	2.6	30.7
Tas.	641	91	759	143.6	20.4	170.0	23.5	3.3	27.8
NT	482	71	551	312.0	46.0	356.6	64.0	9.4	73.2
ACT	240	32	244	92.7	12.4	94.3	18.3	2.4	18.6
Aust.	**25,260**	**2,888**	**29,179**	**157.7**	**18.0**	**182.2**	**27.2**	**3.1**	**31.4**

(*a*) Accidents reported to the police or other relevant authority which occurred in public throughfares and which resulted in death within thirty days or personal injury to the extent that the injured person was admitted to hospital. (*b*) Number of motor vehicles (excluding tractors, plant and equipment) on register at 30 June 1986.

ROAD TRAFFIC ACCIDENTS INVOLVING FATALITIES

Year	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Accidents involving fatalities—									
1982	1,115	631	522	239	203	84	52	26	2,872
1983	877	610	437	235	191	63	45	27	2,485
1984	910	584	448	205	203	77	45	35	2,507
1985	954	605	452	239	219	69	59	30	2,627
1986	908	610	421	259	208	78	63	30	2,577
1987p	856	626	400	229	193	67	80	33	2,484
Persons killed—									
1982	1,253	709	602	270	236	96	60	26	3,252
1983	966	664	510	265	203	70	49	28	2,755
1984	1,037	657	505	232	220	83	50	37	2,821
1985	1,067	683	502	268	243	78	67	33	2,941
1986	1,029	668	481	288	228	91	71	32	2,888
1987p	958	705	442	256	213	77	84	36	2,771

ROADS

Summary of roads used for general traffic

Proclaimed or declared roads

The table following is a summary of the roads proclaimed or declared under the Acts of the several States relative to the operations of the central road authorities, and shows the lengths of various classes proclaimed or declared as at 30 June 1987. The central road authority in each State assumes responsibility under the Act for the whole or a proportion of the cost of construction and maintenance of these roads, the extent varying from State to State and with the class and locality of the roads. Before proclamation of a main road, consideration is given, in general, to the following points: availability of funds; whether the road is, or will be, within one of several classes of main trunk routes;

the value of the roads as connecting links between centres of population or business; whether the district is, or will be, sufficiently served by railways. Provision is also made in some States for the declaration of roads other than main roads. The absence of a particular class in any State does not necessarily imply that there are no roads within that State that might be so classified; the classes are restricted only to roads proclaimed or declared under the Acts. A further point to make is that, through various causes (e.g. insufficiency of funds, labour or materials), construction or maintenance may not keep pace with gazettal of roads, and, therefore, the condition of a road may not match its status.

PROCLAIMED OR DECLARED ROADS: LENGTHS, STATES, 30 JUNE 1987
(kilometres)

Class of road	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*Aust.*
State highways and freeways	10,263	7,584	10,420	—	7,936	1,925	38,128
Trunk roads	25,380	—	227	12,483	—	—	38,090
Ordinary main roads	—	14,771	8,183	—	7,460	1,259	31,673
Total main roads	*35,643*	*22,355*	*18,830*	*12,483*	*15,396*	*3,183*	*107,890*
Secondary roads	(*a*)298	—	13,212	—	8,645	297	22,452
Development roads	—	—	8,716	—	—	45	8,761
Tourist roads	428	845	—	—	—	171	1,444
Other roads	2,677	(*b*)1,003	—	—	—	—	3,680
Total other roads	*3,403*	*1,848*	*21,928*	—	*8,645*	*514*	*36,338*
Total	**39,046**	**24,203**	**40,758**	**12,483**	**24,041**	**3,697**	**144,228**

(*a*) Metropolitan only. (*b*) Forest roads.

Total roads

The following table represents an attempt to classify all the roads open for general traffic in Australia, at the latest dates available, according to States and Territories and to certain broad surface groups. The figures in the table for the States are obtained from the Deputy Commonwealth Statistician in each State, and are derived mainly from local government sources.

ALL ROADS OPEN FOR GENERAL TRAFFIC LENGTHS, STATES AND TERRITORIES
30 JUNE 1987
(kilometres)

Surface of roads	*NSW(a)(b)*	*Vic.(c)*	*Qld*	*SA*	*WA(d)*	*Tas.*	*NT(e)*	*ACT*	*Aust.*
Bitumen or concrete	76,355	67,038	55,581	23,117	40,463	8,905	5,597	2,445	279,501
Gravel, crushed stone or other improved surface	64,363	47,281	43,739	—	37,912	8,148	5,446	170	207,059
Formed only	34,288	23,750	52,441	73,010	41,476	323	4,788	—	230,076
Cleared only	19,999	21,307	16,673	—	21,214	5,339	4,229	—	88,761
Total	**195,005**	**159,376**	**168,434**	**96,127**	**141,065**	**22,715**	**20,060**	**2,615**	**805,397**

(*a*) Excludes roads designated but not trafficable. Excludes Lord Howe Island and the unincorporated area of the Western Division. (*b*) Figures as at 31 December 1986. (*c*) Excludes roads coming under the responsibility of the State Electricity Commission and Forests Commission (*d*) Excludes Forests Department roads. (*e*) Excludes roads in towns and Local Government Areas.

National Association of Australian State Road Authorities—NAASRA

The National Association of Australian State Road Authorities was established in 1934. The present member authorities are: Department of Main Roads, New South Wales; Road Construction Authority, Victoria; Main Roads Department, Queensland; Main Roads

Department, Western Australia; Highways Department, South Australia; Department of Main Roads, Tasmania; Northern Territory Department of Transport and Works; Australian Capital Territory Administration, Office of City Management; Commonwealth Department of Transport and Communications.

The Association's mission is to promote cooperation between NAASRA members towards the effective management and development of the national road system.

NAASRA has an obligation to the people and governments of Australia to maintain a duty of care over the national roads and transport infrastructure; contribute to national economic strategies; respond to reasonable community expectations; develop and utilise appropriate expertise and skills; share information and promote efficiency and effectiveness.

The Association provides a forum which enables a national approach to the effective development and management of the Australian road system. This has resulted in the coordination of road research, preparation of road and bridge design standards, improvements in operating practices and reporting on the current status of the road network.

The NAASRA Secretariat arranges publication of the policies and standards which are widely used by road authorities, local government and universities; cooperates with the Standards Association of Australia on the preparation of national codes of practice; and acts as an Australian centre for contact with overseas road bodies and for the circulation of standards published by them.

The Association is a member of the Permanent International Association of Road Congress (PIARC) and of the Road Engineering Association of Asia and Australasia (REAAA).

Australian Road Research Board—ARRB

The Australian Road Research Board is a non-profit-making company founded in 1960 by NAASRA, and is located at Vermont in Victoria. It is financed mainly by Federal and State Government Road Authorities whose permanent heads make up ARRB's Board of Directors. The Executive Director, a full-time employee and member of the Board, is responsible for administering the Director's policies.

The ARRB regularly undertakes and sponsors road and road transport research over a comprehensive range of subjects and disseminates results to appropriate organisations, engineers and scientists involved in the design, location, construction, upkeep and use of roads.

The ARRB disseminates road research information through its major biennial conferences and regular symposia, seminars and workshops and through its publications which include the ARRB Conference Proceedings, a quarterly journal *Australian Road Research*, the *Source Book for Australian Roads*, symposium and workshop papers and various reports and technical manuals arising out of its many research projects. ARRB also maintains a unique library of road literature and operates a computer-based information service which abstracts and indexes road-related literature and research in progress. In 1987 the Information on Roads (INROADS) data base was made publically accessible on CSIRO's AUSTRALIS system. The INROADS data base lists all ARRB publications from 1960, significant Australian road-related literature from 1977, publications catalogued for the ARRB Library, including some retrospective conversion of a card catalogue from 1984, and an annual update of current research in progress. INROADS supersedes the ARRD and ROAD data bases.

The ARRB acts as the Australian member of the Organisation for Economic Co-operation and Development's International Road Research Documentation (IRRD) system, contributing information on Australian literature and projects. IRRD information from all member countries is available to Australians through ARRB's computer search services. ARRB also maintains close contacts with road research organisations in other countries.

AIR TRANSPORT

The Commonwealth imposes safety and operational controls on the Australian aviation industry under the *Civil Aviation Act 1988* and the Civil Aviation Regulations. Under this legislation, a central Commonwealth agency, the Civil Aviation Authority, was established with effect from 1 July 1988 and vested with sole responsibility for the administration and enforcement of aviation safety within Australia. The Bureau of Air Safety Investigation, which is directly responsible to the Minister and performs a safety audit function, will remain in the Department of Transport and Communications.

In addition, the Commonwealth imposes a range of economic regulatory controls administered by the Department of Transport and Communications. These controls cover such matters as the import and export of aircraft, the negotiation of international air transport agreements, the approval of international fares and freight rates, and the operation of scheduled passenger air services across State or Territory boundaries. Fares charged for the carriage of passengers on domestic scheduled air services are required to be approved by a Commonwealth statutory body, the Independent Air Fares Committee.

International activity

International organisations

Australia is one of the 159 (as at 30 June 1988) members of the International Civil Aviation Organisation (ICAO). Australia has continued its membership of the (governing) Council since ICAO was established in 1947. Australia is also represented on the 15 member Air Navigation Commission which is responsible for drawing up international standards and procedures for the safety, regularity and efficiency of air navigation. In addition, Australia participates in the Commonwealth Air Transport Council, the South Pacific Regional Civil Aviation Council and the Airport Operators Council International.

International agreements

Australia as at 30 June 1988 had air service agreements with 26 countries. These agreements have full treaty status. Australia also had seven air service arrangements, with less than treaty status, as of 30 June 1988. Under these agreements or arrangements Qantas, Australia's designated airline, and the foreign carriers of Australia's bilateral partners are entitled to operate services to and/or through each others territories. A commercial agreement exists between Qantas and Air Zimbabwe for services between Australian and Zimbabwe. Qantas and the Government of Bahrain have an arrangement to enable services to operate between Australia and Bahrain.

International scheduled services

At 30 July 1988, 32 international airlines were operating regular scheduled air services to Australia. The carriers (and contracting states) were: Air Caledonie International (France), Air India (India), Air Nauru (Nauru), Air New Zealand (New Zealand), Air Niugini (Papua New Guinea), Air Pacific (Fiji), Alitalia (Italy), All Nippon Airways (Japan), British Airways (UK), CAAC (Peoples Republic of China), Canadian Airlines International (Canada), Cathay Pacific Airways (UK), Continental Airlines Inc. (USA), Flying Tiger Line Inc. (USA), Garuda Indonesian Airways (Indonesia), Hawaiian Airlines (USA), Japan Airlines (Japan), JAT (Yugoslavia), KLM–Royal Dutch Airlines (Netherlands), Lauda Air (Austria), Lufthansa German Airlines (Federal Republic of Germany), Malaysian Airline System (Malaysia), Merpati Nusantara Airlines (Indonesia), Olympic Airways (Greece), Philippine Airlines (Philippines), Polynesian Airlines Ltd (Western Samoa), Royal Brunei Airlines (Brunei), Singapore Airlines Ltd (Singapore), Thai Airways International (Thailand), United Airlines (USA) and Union de Transports Aeriens (France). Polynesian Airlines Ltd also operates services on behalf of Cook Islands International (Cook Islands) and Air Pacific operates services on behalf of Solomon Islands Airlines (Solomon Islands).

Qantas, Australia's international airline, operated a fleet of 25 Boeing 747 and 7 Boeing 767 jet aircraft. All shares in Qantas Airways Limited are owned by the Commonwealth Government.

International non-scheduled services

Australia's passenger and freight charter policies encourage in-bound tourism and freight carriage particularly over routes not served by the scheduled carriers.

International traffic

The table following shows particulars of scheduled international airline traffic during 1986–87 moving into and out of an area which embraces Australia and Norfolk Island. These figures do not include traffic between Australia and Norfolk Island.

AIR TRANSPORT: SCHEDULED INTERNATIONAL AIRLINE TRAFFIC TO AND FROM AUSTRALIA (a) 1986–87

Type of traffic	*Number of flights (b)(c)*	*Passengers*	*Freight tonnes*	*Mail tonnes*
Traffic to Australia—				
Qantas Airways Limited	6,390	1,319,922	41,817	1,002
Other airlines	8,465	1,811,708	67,895	6,394
All airlines	**14,855**	**3,131,630**	**109,712**	**7,396**
Traffic from Australia—				
Qantas Airways Limited	6,385	1,262,985	55,361	4,038
Other airlines	8,386	1,746,841	98,916	1,512
All airlines	**14,771**	**3,009,826**	**154,277**	**5,550**

(a) Australia and Norfolk Island. *(b)* Includes Qantas flights using aircraft leased from other airlines. *(c)* Difference between in/out numbers arises because some outward flights are operated as non-scheduled, and thus not counted in above tables.

Statistics covering the operations of Australia's regular overseas services are shown in the following table. These operations include all stages of Qantas flights linking Australia with overseas countries.

AIR TRANSPORT: OPERATIONS OF AUSTRALIA'S SCHEDULED OVERSEAS SERVICES

		1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Hours flown	number	77,910	82,409	83,551	89,952	100,653	117,383
Kilometres flown	'000	61,052	64,898	65,670	71,046	79,050	91,874
Passengers—							
Embarkations	number	2,020,107	2,101,788	2,189,669	2,449,596	2,671,486	3,052,411
Passenger-kilometres	'000	14,818,491	14,477,756	15,247,801	16,858,595	18,233,088	21,258,519
Freight—							
Tonnes uplifted	tonnes	66,036	75,375	84,844	90,357	91,961	110,389
Tonne-kilometres	'000	479,996	485,549	563,268	637,590	691,352	811,627
Mail—							
Tonnes uplifted	tonnes	4,344	4,219	4,410	4,744	4,869	5,327
Tonne-kilometres	'000	39,244	40,058	40,324	43,231	45,370	51,819

The air cargo statistics set out in the following table have been compiled from information contained in import and export documents submitted by importers and exporters, or their agents to the Australian Customs Service as required by the *Customs Act 1901*.

AIR CARGO BY TRADE AREA, INWARD AND OUTWARD OVERSEAS, 1986–87

	Inward cargo		*Outward cargo*	
Trade area	*Gross weight*	*Value*	*Gross weight*	*Value*
	tonnes	$'000	tonnes	$'000
Europe	28,347	2,569,358	7,227	1,053,645
East Asia	9,224	350,016	17,620	767,140
Japan and North Asia	7,617	752,369	15,274	944,632
North America—East Coast	15,034	1,549,266	2,621	273,096
North America—West Coast	11,120	1,393,284	13,054	525,425
Central America and Carribbean	60	9,990	89	3,322
South America—East Coast	633	54,483	30	4,153
South America—West Coast	48	3,298	41	1,817
Africa—Mediterranean	—	8	5	521
West Africa	44	8,447	36	423
South and East Africa	483	317,398	459	17,828
Red Sea and Mediterranean Middle East	175	32,689	985	11,811
Middle East Gulf	22	13,118	17,855	62,409
West India	797	39,902	539	9,787
East India	1,384	37,968	176	31,359
South-East Asia	4,506	306,146	30,101	396,067
New Zealand	21,942	460,271	29,721	645,072
Papua New Guinea and Solomon Islands	264	124,854	2,868	85,118
Pacific Islands and other countries	952	29,276	5,210	62,579
Trade area not specified	16	2,762	8,421	203,882
Total	**102,673**	**8,054,995**	**152,336**	**5,100,705**

Domestic activity

State Governments exercise controls over intrastate domestic aviation by virtue of their respective powers under the Constitution. The States of New South Wales, Queensland, Western Australia and Tasmania, and the Northern Territory, license air services within their borders, having regard to public interest and other considerations. In some cases approval of intrastate air fares is also required. Victoria and South Australia choose not to regulate air services and, within these States, only Commonwealth requirements must be satisfied to conduct air services. (The Commonwealth alone regulates interstate aviation.)

Economic regulation and deregulation

The Commonwealth regulates domestic air transport on economic grounds in Australia through arrangements commonly known as the 'two-airline policy' which have existed in various forms for more than thirty-five years. Under the policy the operation of regular passenger air services over the main domestic or 'trunk' routes is restricted generally to the Commonwealth-owned Australian Airlines Ltd (formerly Trans Australia Airlines) and the privately owned Ansett Airlines of Australia (a division of Ansett Transport Industries (Operations) Pty Ltd, a wholly owned subsidiary of Ansett Transport Industries Ltd).

The Commonwealth maintains the policy essentially by using the Customs (Prohibited Imports) Regulations to restrict other operators' access to aircraft which could be used to compete with Australian Airlines and Ansett over the trunk routes. The policy in its presents form is based on legislation passed by Parliament in 1981—namely the *Airlines Agreement Act 1981*, the associated *Airlines Equipment Amendment Act 1981* and the *Independent Air Fares Committee Act 1981*.

In October 1987 the Australian Government announced its decision to deregulate interstate domestic aviation in Australia and open the nation's interstate air services to free competition. The 1981 Airlines Agreement will cease on 30 October 1990. In essence, the Government will withdraw from detailed economic regulation of domestic air fare setting, aircraft imports, capacity controls and route entry. State controls however will remain unchanged.

Major airlines

The major airlines providing domestic air services in Australia are the Ansett group, comprising Ansett Airlines of Australia, Air NSW, Ansett WA and Ansett NT; East-West Airlines; Australian Airlines; and IPEC Pty Ltd, a cargo operator. TNT and News Ltd jointly own both the Ansett group and East-West.

At 30 June 1988 the Ansett group's fleet consisted of 5 Boeing 767s, 13 B727-200s, 12 B737-300s, 7 Fokker F28-1000s, 2 Fokker F28-4000s, 9 Fokker F27s, 9 Fokker F50s, 2 BAe146s and 1 F28-3000.

Australian Airlines operated a fleet of 11 Boeing 727s, 12 Boeing 737s, 3 Airbus A300s, 5 McDonnel-Douglas DC9s, 2 Fokker F27s, and 5 De Havilland Twin Otters.

East-West Airlines operated a fleet of 4 F28-4000s, 1 F28-3000 and 7 F27-500s.

The Interstate Parcel Express Company (Australia) Pty Ltd, trading as IPEC Aviation, operates cargo airlines services using three Argosy aircraft and a DC9 aircraft.

Commuter services

Some 45 commuter operators provided regular public transport air services to over 200 ports in Australia at 30 June 1988.

The aircraft types currently used by commuter operators are predominantly in the 6–9 seat category, such as the Piper PA31 and Cessna 310, 402 and 404 series. Larger types used include Metroliner, Embraer Bandeirante, British Aerospace Jetstream 31 and Shorts 330 and 360. During 1987 commuter operators carried an estimated 1.2 million passengers.

General aviation

In addition to scheduled services, there is a wide range of other activities undertaken by the aviation industry. Charter operations involve the use of aircraft in operations for the carriage of passengers and cargo for hire or reward which are not scheduled or available to the public. Approximately 650 operators in Australia hold charter licences.

Aerial work and private operation do not involve the commercial transport of passengers and cargo for hire or reward. Aerial work involves the use of aircraft in operations such as aerial survey, aerial agriculture, advertising and flying training. Private operations include the use of aircraft for the personal transportation of the owner and the carriage of persons or goods without a charge being made for the carriage. Hours flown by general aviation during 1986–87 were estimated at 1.7 million.

Scheduled domestic airline services

Statistics of all regular domestic airline services are set out in the following table.

AIR TRANSPORT: OPERATIONS OF SCHEDULED DOMESTIC AIRLINE SERVICES AUSTRALIA (a)

		1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88p*
Hours flown	number	245,567	242,075	247,158	262,007	276,861	288,341
Kilometres flown	'000	127,952	126,087	132,087	n.a.	n.a.	n.a.
Passengers—							
Passenger uplifts	number	10,332,934	10,597,651	11,329,708	12,049,700	12,508,800	13,704,500
Passenger-kilometres	'000	9,327,206	9,684,589	10,397,723	11,272,068	12,043,310	13,277,819
Freight—							
Tonnes uplifted	tonnes	141,853	149,879	151,226	150,385	137,627	147,939
Tonne-kilometres	'000	124,796	137,819	135,590	138,606	129,554	140,812
Mail—							
Tonnes uplifted	tonnes	16,767	17,571	18,411	17,999	18,761	20,915
Tonne-kilometres	'000	17,167	17,621	18,575	18,127	19,102	20,907

(*a*) Includes flights of all domestic airlines, between airports located within Australia and includes flights by East-West Airlines and Airlines of New South Wales between Australia and Norfolk Island.

Airport activity—domestic passengers

The statistics set out in the next table have been compiled by aggregating all domestic airline passenger traffic loaded and unloaded at each airport. They include passengers on flights between Australia and Norfolk Island. At ports where through-passengers transfer between flights, such passengers are counted as embarking as well as disembarking passengers.

SCHEDULED DOMESTIC AIRLINES PASSENGER UPLIFTS AND DISCHARGES AT PRINCIPAL AUSTRALIAN AIRPORTS

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Sydney	5,338,944	5,501,492	5,900,743	6,334,313	6,668,942	7,398,716
Melbourne	4,500,234	4,550,568	4,851,880	5,127,843	5,309,767	5,857,382
Brisbane	2,518,841	2,554,622	2,684,608	2,800,387	2,974,189	3,299,887
Adelaide	1,635,544	1,684,281	1,762,845	1,825,412	1,704,871	1,843,761
Perth	995,987	1,049,567	1,127,184	1,230,846	1,352,111	1,435,752
Canberra	786,449	838,175	931,673	990,222	1,006,652	1,091,477
Coolangatta	553,886	567,623	630,474	731,103	852,957	1,000,347
Cairns	387,895	404,168	426,206	494,217	627,713	775,206
Hobart	433,910	448,549	481,612	493,794	474,425	513,260
Townsville	377,186	388,752	404,463	409,478	415,870	404,215
Launceston	356,261	352,494	390,867	361,795	351,432	353,017
Darwin	266,268	281,032	302,590	334,321	341,835	369,127

Aerodromes

The number of aerodromes throughout Australia and its external territories at 30 June 1988 was 430. Sixty-seven were owned by the Commonwealth Government and 363 by local authorities and private interests. The number of licensed helipads throughout Australia and its Territories is 9. Capital expenditure on aerodrome and building construction was $42.5 million in 1987–88. Maintenance expenditure on Commonwealth Government-owned aerodromes during 1987–88 was $18.9 million. Expenditure on development and maintenance grants to licensed aerodromes participating in the Local Ownership Plan totalled $10.9 million.

Airway facilities

A total of 550 navigational aids were in service at 30 June 1988. The total includes the following CAA facilities: 250 non-directional beacons (NDB) and Locators, 108 domestic distance measuring equipment (DME(D)), 24 international distance measuring equipment (DME(I)), 83 VHF omni-directional range equipment (VOR), 18 instrument landing systems (ILS). It also includes 67 privately owned navigational aids which consist of: 1 DME(D), 2 DME(I)s, 2 VORs, 1 ILS and 59 NDBs. In addition there are 11 NDBs operated by the Department of Defence and 11 NDBs operated by the Department of Transport and Communications.

There are approximately 200 aerodromes now equipped with night landing facilities and 126 Australian-designed 'T' systems (T-VASIS) are operating. Seven long-range and 2 short-range radar systems are in operation: each system consists of primary surveillance radar equipment and secondary surveillance radar equipment.

There are 32 Air Traffic Control Centres, 45 Flight Service Units and 28 Rescue and Fire Fighting Units in operation throughout Australia.

Air transport registrations, licences, etc., in force in Australia

At 31 December 1987 there were 7,435 aircraft registered in Australia. At the same time 52,747 current aeroplane pilot licences, of which 29,779 were private pilot, 5,728 commercial pilot, 2,323 senior commercial pilot, 2,299 air transport pilot and 12,618 student pilot licences. In addition, there were 2,284 current helicopter pilot licences of which 317 were private pilot, 970 commercial pilot, 114 senior commercial pilot and 883 student pilot. There were also 13 gyroplane, 57 commercial balloon, 760 flight engineer and 11 navigator licences in force.

Accidents and casualties

AIR TRANSPORT: ACCIDENTS INVOLVING CASUALTIES (a) AUSTRALIA (b)

	1982	1983	1984	1985	1986	1987
Number	51	44	40	31	40	44
Persons killed	53	47	45	43	44	33
Persons seriously injured	35	29	25	27	31	42

(a) Accidents involving civil aircraft (including registered gliders) which resulted in death or serious injury. Excludes parachutists and casualties involving non-registered aircraft. *(b)* Excludes accidents outside Australia involving aircraft on the Australian register, includes all accidents to overseas registered aircraft that occur in Australia.

POSTAL, TELECOMMUNICATIONS AND RADIOCOMMUNICATIONS SERVICES

In this section, particulars for the Australian Capital Territory are included with those for New South Wales, and the South Australian figures include particulars for the Northern Territory, unless otherwise indicated.

Australian Postal Commission

The Australian Postal Commission was established under the *Postal Services Act 1975*. It commenced operations on 1 July 1975 and trades under the name Australia Post.

Under the Postal Services Act, the Australian Postal Commission is required to operate Australia's postal services in such a manner as will best meet the social, industrial and commercial needs of the Australian people. In performing its funtions, the Commission is required to have regard for the special needs for postal services of Australian people who reside or carry out business outside the cities. It is also required to raise sufficient revenue to cover operating expenditure and to fund at least half of its capital expenditure.

Australia Post provides surface and airmail services within Australia and to and from other countries. Special services provided include express courier, electronic mail, priority paid mail, business reply post, cash-on-delivery, certified mail, freepost, messenger delivery, a security mail service and a number of reduced rate services.

Australia Post operates a money transfer service, sells postal products such as padded post bags, postal stationery and philatelic items, and act as agent on behalf of Commonwealth, State and local government departments and authorities and for private sector principals.

Australia Post is the authority for the issue of postage stamps throughout the Commonwealth of Australia and its external territories.

The following tables give details of Australia Post's financial results, services and operation.

AUSTRALIAN POSTAL COMMISSION: PROFIT AND LOSS
($'000)

Year ended 30 June	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*
Revenue—						
Mail services	870,719	971,676	1,080,539	1,186,422	1,370,930	1,501,487
Commission on agency services	90,113	90,449	94,547	87,291	83,328	89,803
Postal money order service	10,544	11,632	11,940	11,846	12,384	13,242
Other revenue	28,058	21,993	24,269	39,832	38,440	51,847
Total	**999,434**	**1,095,750**	**1,211,295**	**1,325,391**	**1,505,082**	**1,656,379**
Expenditure—						
Labour and related expenditure	774,662	831,600	911,776	973,294	1,049,186	1,131,190
Carriage of mail by contractors	83,665	92,984	103,551	109,418	121,183	132,832
Depreciation and interest	15,056	15,299	17,159	22,294	27,744	38,454
Other expenditure	117,257	131,716	154,301	189,530	252,079	298,955
Total	**990,640**	**1,071,599**	**1,186,787**	**1,294,536**	**1,450,192**	**1,601,431**

AUSTRALIAN POSTAL COMMISSSION: PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 1988
($'000)

Revenue—	
Mail services	1,501,487
Commission on agency services	89,803
Postal money order service	13,242
Other revenue	51,847
Total	*1,656,379*
Expenditure—	
Labour and related expenditure	1,131,190
Carriage of mail by contactors	132,832
Accommodation	79,137
Stores and supplies	94,106
Depreciation	32,417
Interest	6,037
Other operationg expenditure	125,712
Total	*1,601,431*
Operating Profit	**54,948**
Appropriations—	
Accumulated profit brought forward	61,636
Operating profit for the year	54,948
Adjustments to provision	—
Accumulated profit carried forward	116,584

AUSTRALIAN POSTAL COMMISSION: PERSONS ENGAGED IN PROVIDING POSTAL SERVICES AT 30 JUNE 1987 AND 1988

	HQ	*NSW (incl. ACT)*	*Vic.*	*Qld*	*SA (incl. NT)*	*WA*	*Tas.*	*Aust. 1988*	*Aust. 1987*
Official staff *(a)*—									
Full-time permanent	646	12,843	8,940	4,196	2,618	2,412	647	32,302	32,381
Full-time temporary	16	1,370	827	267	169	274	58	2,981	3,165
Part-time	—	1,274	678	358	352	378	90	3,130	2,973
Other staff *(b)*	—	2,734	1,844	1,621	779	713	386	8,077	7,959
Total	**662**	**18,221**	**12,289**	**6,442**	**3,918**	**3,777**	**1,181**	**46,490**	**46,478**

(a) 'Official staff' are those whose employment is governed by the *Postal Services Act 1975*. *(b)* Includes persons who are not employed under the Postal Services Act, but who are engaged on the basis of business transacted. Also included are persons or organisations who hold road mail service contracts with the Australian Postal Commission.

AUSTRALIAN POSTAL COMMISSION: MAIL DELIVERY NETWORK AND POST OFFICES AT 30 JUNE 1987 AND 1988

	NSW (incl. ACT)	*Vic.*	*Qld*	*SA (incl. NT)*	*WA*	*Tas.*	*Aust. 1988*	*Aust. 1987*
Households receiving mail	2,147,340	1,522,303	998,991	577,722	537,554	159,214	5,943,124	5,842,668
Business receiving mail	226,196	151,578	103,043	56,477	54,326	15,557	607,177	592,435
Post offices—								
At 1 July 1987	500	338	216	145	152	41	..	1,392
At 30 June 1988	496	333	218	143	153	40	1,383	..
Agencies—								
At 1 July 1987	945	845	523	399	248	185	..	3,238
At 30 June 1988	925	840	521	390	247	183	3,106	..
Total post offices and agencies	**1,421**	**1,173**	**739**	**533**	**400**	**223**	**4,489**	**4,537**

AUSTRALIAN POSTAL COMMISSION: TOTAL POSTAL ARTICLES HANDLED ('000)

Year ended 30 June	*Posted for delivery within Australia*	*Posted for places abroad*	*Received from abroad*	*Total postal articles handled*
1983	2,669,363	111,050	163,575	2,943,988
1984	2,764,113	106,585	164,362	3,035,060
1985	2,877,476	107,783	163,074	3,148,333
1986	2,970,353	115,688	166,444	3,252,485
1987	3,143,251	125,995	169,306	3,438,552
1988	3,342,321	142,280	177,417	3,662,018

AUSTRALIAN POSTAL COMMISSION: ORDINARY POSTAL ARTICLES (a) ('000)

	Standard articles			
Year ended 30 June	*Posted for delivery within Australia*	*Posted for places abroad*	*Received from abroad*	*Total articles*
1986	r2,543,792	r100,857	121,022	2,765,671
1987	2,689,440	108,228	122,379	2,920,047
1988	2,862,775	122,613	128,407	3,113,775
	STATES—YEAR ENDED 30 JUNE 1988			
New South Wales (incl. ACT)	1,137,009	47,213	67,139	1,251,361
Victoria	792,127	35,024	37,283	864,434
Queensland	406,758	18,481	8,563	433,802
South Australia (incl. NT)	231,622	9,167	4,863	245,652
Western Australia	236,806	12,728	10,366	259,900
Tasmania	58,433	—	193	58,626

(*a*) Includes certified, messenger delivery and priority paid mail.

Telecommunications Services Within Australia

The Australian Telecommunications Commission was established on 1 July 1975 under the provisions of the *Telecommunications Act 1975* and operates under the trading name Telecom Australia.

Functions

Under section 7 of the Telecommunications Act the Minister may, after consultation with the Commission, give to the Commission, in writing such directions with respect to the performance of its functions and the exercise of its powers, as appear to the Minister to be necessary in the public interest. No such formal directions were given during the year ended 30 June 1988. The functions of the Commission are to:

- plan, establish, maintain and operate telecommunications services within Australia;
- operate such other services as the Commission is authorised by the Telecommunications Act to operate;
- provide, at the request of the Australian Government, technical assistance outside Australia in relation to the planning, establishment, maintenance and operation of telecommunications services in countries outside Australia;
- do anything incidental or conducive to the performance of any of the preceding functions.

The Commission is required to perform its function in such a manner as will best meet the social, industrial and commercial needs of the Australian people for telecommunications services and, so far as it is, in its opinion, reasonably practicable to do so, to make its telecommunications services available throughout Australia for all people who reasonably require those services.

Subsidiary and associated companies

The Commission may also, with the approval of the Minister, form, or participate with other persons in the formation of, a company that would carry on a business relating to telecommunications.

As at 30 June 1988 Telecom subidiary and associated companies were:

- Telecom Australia (International) Ltd—100 per cent owned;
- QPSX Communications Pty Ltd—60 per cent owned;
- AUSSAT Pty Ltd—25 per cent owned;
- Telecom Technologies Pty Ltd—50 per cent owned;
- National Registries Pty Ltd—50 per cent owned;
- Telecom–Hewlett Packard Pty Ltd—50 per cent owned;
- Advanced Network Management Pty Ltd—60 per cent owned;
- Nat Soft Communications Pty Ltd—50 per cent owned.

Telecom also participates in a company, the National Protocol Support Centre Ltd. This company is limited by guarantee and has no share capital.

Statistics

The following table shows selected statistics relating to the latest three years of the Commission's operations.

AUSTRALIAN TELECOMMUNICATIONS COMMISSION: SUMMARY OF SELECTED STATISTICS

Year ended 30 June		*1986*	*1987*	*1988*
FINANCIAL				
Revenue	$ million	5,471.7	6,047.5	7,199.5
Expenses	"	5,007.7	5,604.2	6,423.3
Operating profit	"	464.0	443.3	776.6
Rate of return	%	10.8	10.6	12.0
Internal funding	%	71	71	78
Addition to fixed assets	$ million	1,980.9	2,403.1	2,236.1
Net value of fixed assets	"	11,276.6	12,759.4	12,073.1
TRAFFIC (million)				
Telephone calls				
Local		7,195.2	7,538.9	8,074.7
Trunk		1,172.1	1,328.1	1,488.5
To overseas		34.6	47.8	65.9
Total		*8,401.9*	*8,867.0*	*9,629.1*
Cellular mobile telephone calls		n.a.	n.a.	27.9
Calls to recorded information services		120.0	129.7	137.2
NETWORK AND OPERATIONS				
Telephone				
Demand for new services		616,908	610,267	650,809
Connection of new services		614,018	617,806	643,834
Services in operation		6,501,468	6,816,301	7,091,549
Data services				
Datel service—data		n.a.	n.a.	31,622
Modems in operation		102,367	103,726	103,962
Digital data service—network terminating units		22,753	35,210	52,489
AUSTPAC service—number of outstations		2,104	3,924	6,015
STAFF				
Average full-time staff		94,420	93,857	89,659
Total payroll	$ million	2,186.1	2,300.5	2,393.0

Australia's National Satellite System—AUSSAT

AUSSAT Pty Ltd

AUSSAT Pty Ltd was established by the Federal Government in November 1981 as a commercial company to own, operate and manage Australia's National Satellite System.

AUSSAT's Memorandum and Articles of Association and the *Satellite Communications Act 1984* require the company to:

- provide a telecommunications system for Australia by using space satellites and make available the facilities for use in telecommunications systems in neighbouring regions;
- provide service on a non-discriminatory basis and to set fair and equitable charges;
- operate as a commercial taxpaying enterprise paying reasonable dividends to the shareholders.

The company currently has a paid up equity capital of $100 million. Seventy-five per cent of its shareholding is held by the Australian Government with the remaining 25 per cent being held by Telecom Australia.

AUSSAT has a board of nine directors and employs a staff of some 270 people, the majority of whom are highly qualified engineers, technicians and scientists.

The Australian National Satellite System

AUSSAT's first generation satellite system comprises three Hughes Aircraft Company HS 376 spin stabilised satellites. Geostationary orbit locations are: AUSSAT 1—160°E longitude, AUSSAT 2—156°E longitude with AUSSAT 3 at 164°E longitude, some 36,000 kilometres above the earth, directly over the equator.

Each satellite has a minimum design life of seven years. The first two satellites, launched by the Space Shuttle in August and November 1985 respectively, are expected to achieve a seven and a half-year life. It is expected that AUSSAT 3, launched in September 1987 by the European ARIANE rocket, will achieve an on-orbit life of some ten years.

Each satellite carries four high powered (30 watt) transponders and eleven standard power (12 watt) transponders, providing a total of 12x30 watt transponders and 33x12 watt transponders on the three satellite first generation system. The satellites operate in the 12–14 GHz KU Band, on a dual polarised basis to provide for re-use of band width.

The three dish antenna system used on the Australian satellites is a unique and distinguishing feature. The antenna array enables each satellite to provide national beam coverage of the entire Australian continent and its offshore regions and four spot beams covering:

- North-East (Queensland)
- Central Australia (Northern Territory and South Australia)
- West (Western Australia)
- South-East (New South Wales, Victoria and Tasmania)

The satellites also have the capability of providing a switched beam to cover Papua New Guinea, and AUSSAT 3 has a switched beam capability covering the south-west Pacific region and New Zealand.

AUSSAT also operates two telemetry, tracking command and monitoring ground stations. The main centre is located in the Sydney suburb of Belrose, and it is from this station that final positioning and maintenance of the satellites in the geostationary orbit is monitored and controlled. A backup to the Belrose Satellite Control Centre is located in the Perth suburb of Lockridge.

Ground segment

AUSSAT owns and operates a network of eight Major City Earth Stations (MCES) located in Melbourne, Hobart, Adelaide, Perth, Darwin, Brisbane, Sydney and Canberra.

These facilities are designed to provide 'gateway' access to the satellites for AUSSAT customers whose requirements for services do not warrant the purchase of their own satellite earth stations. Microwave or land line connection from each station to customer premises is available.

Applications

The first AUSSAT satellite was commissioned for service on 1 October 1985 with the second satellite coming on-line on 1 January 1986 and AUSSAT 3 in November 1987.

Since commencing operation, the satellite system has proven to be an outstanding success with demand for capacity being far greater than originally projected. More than 80 per cent of available capacity on the first two satellites has been contracted and is now in service.

The design of the satellite communications payload and beam configuration provides multi-purpose capabilities for the system. It allows for the provision of broadcast services for television and radio, as well as program distribution and interchange and for a full range of telecommunication services such as voice, video, telex and data.

Summary of current AUSSAT applications

Broadcasting direct-to-home

The single largest application at the present time is the provision of broadcasting services for television and radio directly into homes in remote outback regions of Australia. This service, known as the Homestead and Community Broadcasting Satellite Service (HACBSS) is being provided, initially, by the Australian Broadcasting Corporation (ABC). The HACBSS service provided by the ABC comprises television programming, two AM radio services and a stereo FM radio service.

With the launch and commissioning of AUSSAT 3, the service provided by the ABC is being supplemented by a similar commercial service known as the Regional Commercial Television Service.

Major network television

Australia's three major television networks are also large users. Each network has leased a standard power (12 watt) transponder and is using the satellite system for program distribution, news gathering and itinerant special program events, such as sporting fixtures.

Aviation

The Department of Transport and Communications has contracted for a total of four standard power transponders which will be used to establish a fully duplicated network of reliable voice and data links between 46 staffed air traffic control facilities and 55 unstaffed remote VHF air-to-ground facilities throughout Australia.

Commercial applications

Apart from the applications detailed above, AUSSAT has contracted with a number of government agencies and commercial organisations for the provision of a wide variety of services. Uses range from the provision of private network voice, video and data services to exciting applications in entertainment distribution, remote and long distance education, emergency services, health and medical services, including the use of slow scan television for diagnostic purposes.

The next generation

AUSSAT has contracted for the manufacture and in-orbit delivery of its second generation satellite system planned for launch in 1991–92.

The system, to be built by Hughes Communications International of Los Angeles, United States, will comprise two much larger satellites providing increased capacity and higher power.

Apart from ensuring continuity of established services the second generation satellites will carry L Band transponders to enable the establishment of a domestic mobile satellite service. This service will be operational by 1992 and could potentially be the first such domestic service in the world.

Overseas Telecommunications Services

The Overseas Telecommunications Commission Australia (OTC) was formed by an Act of Parliament in 1946. OTC's principal responsibility is to provide, at the lowest possible rates, all of Australia's communciations links with other countries and ships at sea. Services provided include telephone, text, data, graphics and maritime communications.

These services, for the business, social, public and private use of all Australians, are provided through OTC's investment in international cable, satellite and radio networks. OTC is a government-owned business enterprise and, as such, operates under the auspices of the Department of Transport and Communications.

In 1987–88 OTC achieved a record turnover of $1,167.1 million, an increase of 16 per cent. Operating profit increased 52 per cent to $190.4 million and after tax profit by 29 per cent to $103.6 million. With a staff of 2,000 and assets totalling $916 million, OTC was placed amongst the more efficient of the government business enterprises. More detailed statistics are contained in OTC's 1988 Annual Report.

Communications networks

OTC has developed a sophisticated international telecommunications network using modern technology to provide direct connections to almost 200 countries, with onward connections to nearly 300.

All of Australia's worldwide communications are directed via OTC's three international gateways at Paddington and Broadway in Sydney and Scoresby in Melbourne, to the international satellite and submarine cable networks.

Through OTC's shareholding in INTELSAT, Australia is part-owner and sixth-largest user of the global communications satellite system, which has satellites in orbit above the Atlantic, Indian and Pacific Ocean regions.

OTC's earth stations are strategically placed to access communications satellites above the Indian and Pacific Oceans. There are OTC satellite earth stations located at Oxford Falls in Sydney, Perth, Western Australia, Ceduna, South Australia and Healesville near Melbourne. There are two earth stations at each location.

OTC is the world's third-largest owner of submarine communications systems. Before the end of the century, it is estimated that OTC will need to provide more than 50 times its current international communications capacity. To meet this demand, OTC will invest more than $2 billion over the next ten years in the world's largest optical fibre cable network spanning the Pacific Ocean.

Wherever submarine cables come ashore, a cable station is located, linking international communications, through OTC's international telecommunications centres, to Australia's national communications network. OTC-owned cable stations and junction points are located at Cairns, Perth, Sydney and Norfolk Island.

OTC is also responsible for all communications between Australia and ships at sea, and operates a network of maritime communications stations strategically located around Australia's coastline. OTC is a foundation member of the international maritime satellite organisation, INMARSAT, which provides high-quality voice, text and data communications for suitably equipped vessels.

Services

OTC provides voice, data, video and text communications services that link Australians to the world. These services include OTC International Direct Dial, allowing Australians to dial direct to almost 200 countries—the world's largest direct dial network; OTC Telex, which allows users to contact 1.6 million subscribers in more than 200 countries; and OTC Data Access, a service that provides access to internationl databases and computer-based information sharing. Other services include international facsimile, electronic mail, private networks and video-conferencing.

Radiocommunication Stations

At 30 June 1988 there were 844,100 civil radiocommunication stations authorised for operation in Australia and its Territories. Of these, 414,690 were associated with land mobile services, 40,754 were fixed services, 66,633 were for marine services, 264,997 were citizens band (CB) stations and 17,852 were amateur stations. Particulars of broadcasting stations are shown in the following section.

BROADCASTING AND TELEVISION

Radio and television broadcasting falls within the jurisdiction of the Commonwealth Government and, pursuant to the *Broadcasting Act 1942* (including amendments Nos 1,2,3 and 4 of 1987) and the *Broadcasting Ownership and Control Acts Nos 1 and 2 1987*, is one of the responsibilities of the Minister for Transport and Communications. Federal bodies which are involved include the Australian Telecommunications Commission, the Australian Broadcasting Corporation (ABC), the Special Broadcasting Service, the Australian Broadcasting Tribunal, the Department of Transport and Communications, the Overseas Telecommunications Commission and AUSSAT Pty Ltd.

Basically, the Australian broadcasting system comprises the following types of stations:

- national radio and television stations broadcasting programs produced by the Australian Broadcasting Corporation;
- commercial radio and television stations operated by companies under licence;
- public radio stations operated by corporations under licence on a non-profit basis;
- stations operated under the auspices of the Special Broadcasting Service.

As from 1 January 1977, the Minister for Transport and Communications assumed responsibility for broadcasting planning, including all matters relating to the technical operation of stations, and for the investigation of interference to the transmission and reception of programs.

The commercial radio and television service

Commercial radio and television stations are operated by companies under licences granted by the Australian Broadcasting Tribunal and with technical operating conditions determined by the Minister for Transport and Communications. The stations obtain income from broadcasting advertisements. At 30 June 1988 there were 140 commercial radio services in operation in Australia. Call signs for radio services are prefixed by numerals indicating each State of Australia (2—New South Wales, 3—Victoria, 4—Queensland, 5—South Australia, 6—Western Australia, 7—Tasmania, 8—Northern Territory). In addition, there were fifty commercial television services in operation in Australia. Many of these services have one or more radiocommunications transmitters to enable the service from the principal transmitter to be provided to the entire service area.

There are also in operation a number of commercial radio and television translator stations, shortly to be known as rebroadcasting services. These have low power and are designed to receive and rebroadcast the signals of the service in whose area they are located. The licences are not held by the licensees of the service which is being rebroadcast but are held by a community group or a company in the area, a local council or some other government authority.

At 30 June 1988, there were three remote commercial television services licensed, transmitting their programs via satellite to remote localities in the Western Zone (Western Australia), Central Zone (Northern Territory and South Australia) and North-East Zone (Queensland).

There is one limited coverage repeater station in Australia operated by a community group, in a town in the Northern Territory. Eight of the nine repeater stations licensed as of 30 June 1987 have either closed down or are rebroadcasting the remote commercial television service.

The public broadcasting service

The Broadcasting Act also makes provision for the granting of licences for the operation of public radio and television stations. At 30 June 1988, 72 public radio stations were broadcasting programs ranging from fine music to ethnic languages and programs produced by and directed towards specific communities. Some public radio stations are associated with tertiary eductional institutions. There are no public television services permanently operating in Australia.

The Special Broadcasting Service

The Special Broadcasting Service (SBS) was established by the Commonwealth Government on 1 January 1978 to provide multilingual radio services and, if authorised by regulations, to provide multilingual television services. A regulation authorising the provision of multilingual television services was gazetted in August 1978. The service is also empowered by the *Broadcasting Act 1942* to provide broadcasting and television services for such special purposes as are prescribed by the government.

In carrying out its functions, the SBS provides multilingual radio services to the Melbourne metropolitan area and Geelong through radio station 3EA which broadcasts in 55 languages for 126 hours per week; the Sydney metropolitan area through radio station 2EA which broadcasts in 59 languages for 126 hours per week; the provincial centres of Newcastle and Wollongong in NSW through 2EA translator services; plus on relay to a small number of public broadcasting stations throughout Australia.

It also provides Australia's sole national UHF-only television network. Since inception in October 1980, SBS-TV has grown from servicing Melbourne and Sydney only, to providing a television transmission in all capital cities (except Darwin) plus several major regional centres.

Transmitting solely on Ultra High Frequency (UHF), SBS-TV is seen Sydney, Melbourne/Geelong, Canberra, Adelaide, Brisbane, Perth and Hobart on UHF 28; North Wollongong on UHF 32; Adelaide's foothills on UHF 43; Newcastle on UHF 45; Upwey (Vic.) on UHF 51; Wollongong on UHF 53; Cooma (NSW), Gosford (NSW), Goulburn (NSW), Tuggeranong (ACT), Warburton (Vic.), Marysville (Vic.) and Sydney's eastern suburbs on UHF 58; the Gold Coast on UHF 61; Ferntree Gully (Vic.) on UHF 68; and Belgrave (Vic.) on UHF 69. SBS-TV operates to most of these centres via AUSSAT. SBS television and radio stations (2EA and 3EA) are also able to be received throughout New South Wales, Victoria and Tasmania by audiences with private AUSSAT satellite dishes.

Broadcasting Services

The Australian Broadcasting Tribunal

The Australian Broadcasting Tribunal came into being on 1 January 1977. It is an independent statutory authority established by the *Broadcasting Act 1942* to regulate some aspects of commercial and public radio and commercial television in Australia. The Tribunal is empowered to grant, renew, suspend or revoke licences, to determine program and advertising standards applicable to licensed stations, to authorise changes to the ownership and control of licences, and to collect and make available information about broadcasting in Australia. In particular, the Tribunal is required to conduct public inquiries into the granting of licences following the invitation of applications by the Minister. The Tribunal may also conduct inquiries into the renewal of licences, the setting of standards of broadcasting practices, alleged breaches of licence conditions and other matters.

The National Broadcasting Service

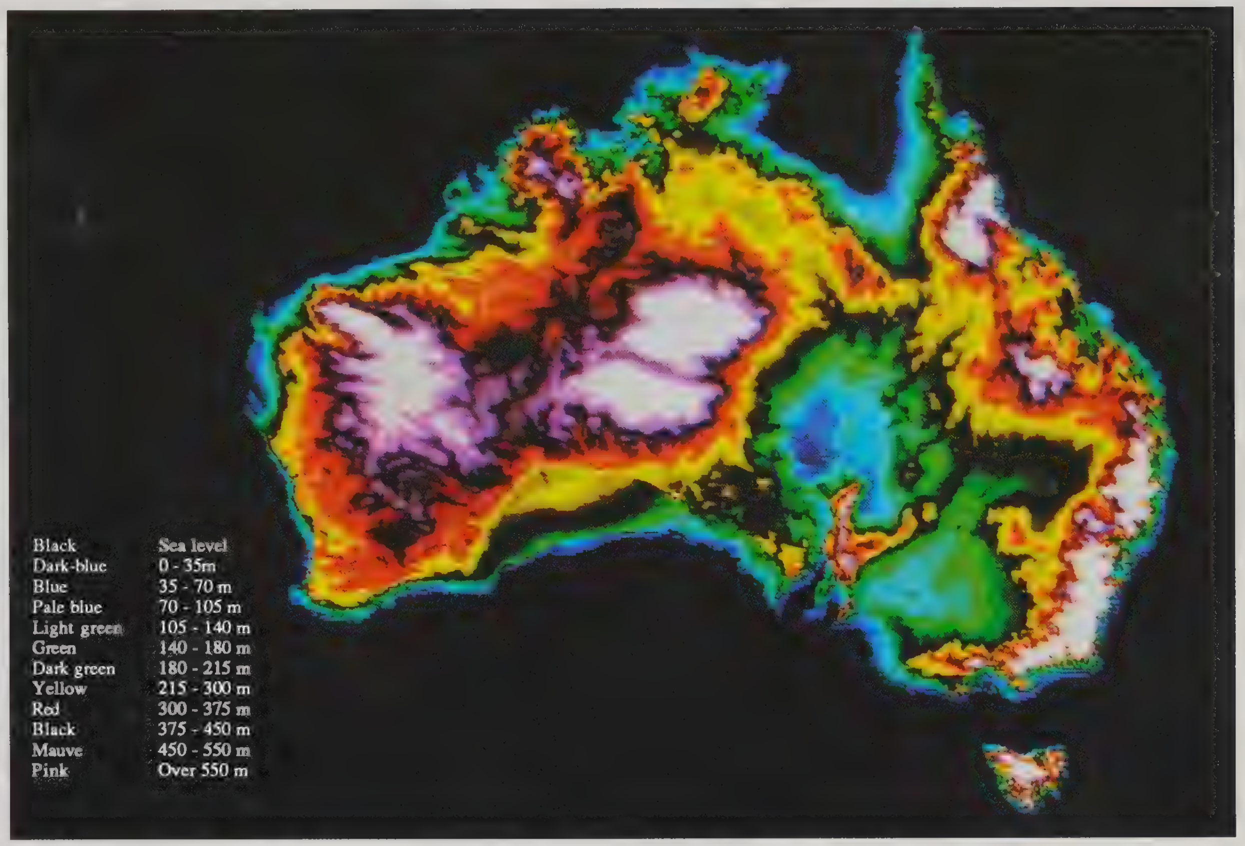
In sound broadcasting, the programs of the National Broadcasting Service are provided by the Australian Broadcasting Corporation through transmitters operated by Telecom Australia on behalf of the ABC and the Department of Transport and Communications.

Technical facilities

At 30 June 1988 the National Broadcasting Service comprised 247 transmitting stations, of which 100 were medium frequency, 141 frequency modulation and 6 high frequency (excluding Radio Australia).

The medium-frequency transmitters operate in the broadcast band 526.5 to 1,606.5 kilohertz. The high-frequency stations, using frequencies within the band of three to thirty megahertz, provide services to listeners in sparsely populated parts of Australia such as the north-west of Western Australia, the Northern Territory, and northern and central Queensland.

TOPOGRAPHIC ELEVATION OF AUSTRALIA AS DISPLAYED BY A COMPUTER-BASED IMAGE PROCESSING SYSTEM


Black Sea level
Dark-blue 0 - 35m
Blue 35 - 70 m
Pale blue 70 - 105 m
Light green 105 - 140 m
Green 140 - 180 m
Dark green 180 - 215 m
Yellow 215 - 300 m
Red 300 - 375 m
Black 375 - 450 m
Mauve 450 - 550 m
Pink Over 550 m

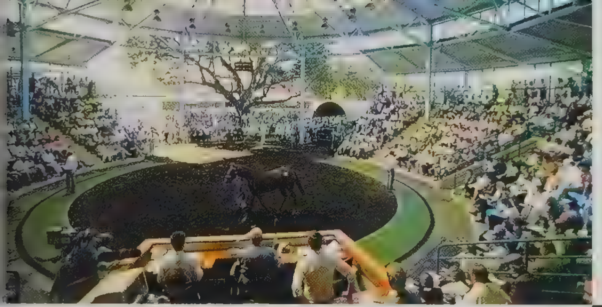
Source: Bureau of Mineral Resources, Geology and Geophysics

North Rankin field on the North-West shelf.

Gladstone aluminium refinery.

AUSTRALIAN INDUSTRY

Felling jarrah. Dwellings, Western Australia.



Newmarket horse sales.

otton at Wee Waa.

Albany woollen mills Western Australia, making carpet wools.

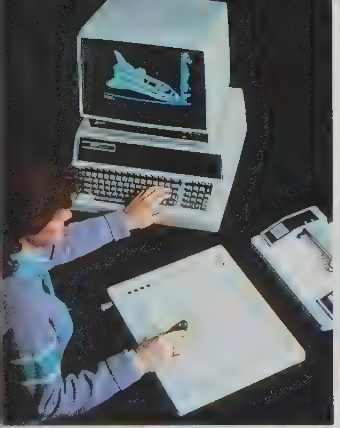
adamia plantations near Lismore.

Border collie at work.

AUSTRALIANS AT WORK

Loading grapes, Hunter Valley.

Dairy farm. Bega, New South Wales.



Computer-aided design at Australian National Industries.

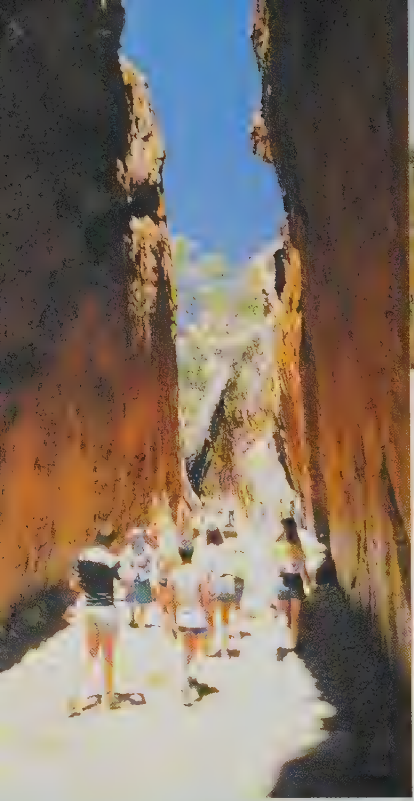
lk screen printed material, Bathurst Island.

HE 8-KIN NETWORK
ABORIGINAL RADIO IN ABORIGINAL COUNTRY

Aboriginal radio station, Alice Springs.

House under construction, Canberra.

Camel chuck-wagon and Dick Munn. William Creek, South Australia.



Standly Chasm, Northern Territory.

udginberri Buffalo Project, Northern Territory.

Feeding the dolphins at Monkey Mia, Western Australia.

Mount Olga, Northern Territory.

Australian Open

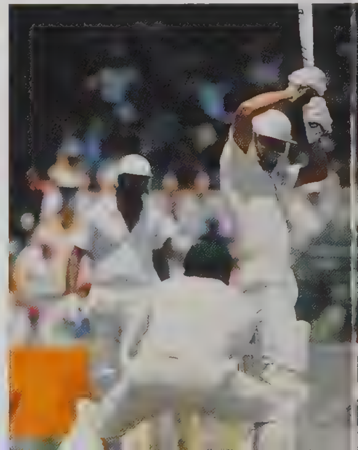
Australian Open 1988. Flinders Park National Tennis Centre, Melbourne.

TOOHEYS DRAUGHT

Golden Slipper at Rosehill.

SPORTING AUSTRALIANS

Imran Khan in the fourth test, Australia verses Pakistan.



Aboriginal Netball Carnival.
Southwell Park, Canberra.

Sailboarding on the Swan River, Perth.

Under 19 Australian ice hockey team at practice.

VISITORS
HOME
Coca-Cola
19
AUSTRALIA
3

AUSSIE KIDS

AUSTRALIANS

AUSTRALIANS

Many of the programs provided by country stations are relayed from the capital cities using high-quality program transmission lines. A number of program channels are utilised to link national broadcasting stations in the capital cities of Australia. When necessary, this system is extended to connect both the national and commercial broadcasting stations.

At 30 June 1988, 88 of the ABC's medium-frequency stations were situated outside the six State capital cities.

Program facilities

The programs of the ABC cover a wide range of activities. The proportions of broadcasting time allocated on metropolitan stations to the various types of program during 1985–86 were as follows: entertainment, 51.2 per cent; news, 9.3 per cent; sporting, 15.6 per cent; spoken word, 10.0 per cent; parliament, 11.4 per cent; religious, 1.2 per cent; rural, 0.6 per cent; and presentation, 0.5 per cent. By contrast, the ABC's radio national programming was: classical music, 41.1 per cent; light music, 0.8 per cent; entertainment, 5.4 per cent; drama and features, 6.3 per cent; education, 5.4 per cent; spoken word, 24.7 per cent; religious, 3.2 per cent; news, 8.1 per cent; rural, 3.4 per cent; and presentation, 1.2 per cent. Regional stations feature a higher proportion of news and rural programs. Futher particulars of the operations of the ABC in respect of music, drama and features, youth education, talks, rural broadcasts, news and other activities are shown in the Corporation's Annual Report.

International Broadcasting Service

There are seven high-frequency stations at Shepparton, Victoria, three at Darwin, Northern Territory and three at Carnarvon, Western Australia which provide the international short wave service known as Radio Australia. As in the case of the National Broadcasting Service, these transmitters are maintained and operated by Telecom Australia, while programs are arranged and presented by Radio Australia. The programs provide entertainment, news and information about Australia presented with objectivity. They are directed to most parts of the world but with special emphasis on the Pacific and Asia. They include 49 news bulletins a day. The audience has been quite substantial in recent years, as evidenced by a large number of letters from listeners abroad (178,231 in 1986–87 and 207,001 in 1987–88). Radio Australia broadcasts in nine languages—English, Indonesian, Japanese, Tok Pisin, Thai, French, Standard Chinese, Cantonese and Vietnamese.

BROADCASTING STATIONS, 30 JUNE 1988

Type of station	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
National—									
Medium frequency (AM)	22	8	22	10	24	6	6	2	100
High frequency (HF)	—	—	2	—	1	—	3	—	6
Frequency modulation (FM)	13	8	53	11	41	6	8	1	141
International—									
Short wave (Radio Australia)	—	7	—	—	3	—	3	—	13
Commercial—									
Medium frequency (AM)	42	22	28	10	19	8	2	2	133
Frequency modulation (FM)	2	2	1	1	1	—	—	2	9
Public broadcasting—									
Medium frequency (AM)	4	1	1	1	1	—	—	1	(a)9
Frequency modulation (FM)	28	11	6	7	5	5	3	1	66

(a) Includes the Special Broadcasting Service.

Television Services

The National Television Service

The National Television Service is provided by the ABC through transmitters operated by Telecom Australia on behalf of the ABC and the Department of Transport and Communications. The first national station (ABN Sydney) commenced regular transmission on 5 November 1956.

The television programs provided by the ABC cover a wide range of activities. The proportions of television time allocated among the ABC's various departments during 1987–88 were as follows: drama, 16.4 per cent; children, 23.9 per cent; current affairs, 6.1 per cent; sporting, 6.8 per cent; news, 3.0 per cent; light entertainment, 2.8 per cent; education, 12.7 per cent; popular and video music, 12.8 per cent; religious, 1.1 per cent; arts, 2.2 per cent; and presentation, 0.1 per cent.

During 1987–88, twenty-one new television translator services went into operation—four in New South Wales, four in Victoria, one in Queensland, eleven in Western Australia, and one in South Australia. Two existing television translator services ceased operation during 1987–88—one in Queensland and one in South Australia.

Colour television

Colour television (PAL) was introduced in Australia late in 1974 and services became fully effective in March 1975.

TELEVISION TRANSMITTER STATIONS, 30 JUNE 1988

Type of station and location	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
National—									
Metropolitan television	6	12	4	4	2	2	1	6	37
Country television	64	26	108	20	69	21	21	—	329
Total, National	*70*	*38*	*112*	*24*	*71*	*23*	*22*	*6*	*366*
Commercial—									
Metropolitan television	10	21	11	6	3	2	1	2	56
Country television	56	23	57	13	58	18	7	—	232
Total, Commercial	*66*	*44*	*68*	*19*	*61*	*20*	*8*	*2*	*288*

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Transport Establishments: Selected Items of Data Classified by Industry and Size Group, 1983–84 (9105.0)

Road Freight Activity of Private Enterprises by Industry Division, Australia and States, 1983–84 (9107.0)

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Survey of Motor Vehicle Use, twelve months ended 30 September 1985 (9208.0)

Interstate Freight Movement, Australia (9212.0)

Rail Transport, Australia (9213.0)

Interstate Freight Movement, Australia (9214.0)

Motor Vehicle Registrations, Australia (9303.0)

Motor Vehicle Registrations, Australia (9304.0)

Motor Vehicle Census, Australia (9309.0)

Road Traffic Accidents Involving Fatalities, Australia (9401.0)

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Other Publications

Information additional to that contained in ABS publications is availabe in the annual reports and other statements of the Department of Transport and Communications, the various harbour boards and trusts, the several government railway authorities, the Federal Airports Corporation, the Australian Postal Commission, the Australian Telecommunications Commission, and the Australian Broadcasting Corporation.

THE AUSTRALIAN CINEMA —AN OVERVIEW

(*This special article has been contributed by the Australian Film Commission*)

Film: an ambassador

Australian film and television has been an excellent ambassador for Australia by promoting international awareness of, and interest in, our country. Local film and television programs have stimulated tourism and made a significant contribution to Austalia's export earnings. Many Australian films have achieved international acclaim at film festivals around the world, winning prestigious awards and representing Australia at important cultural forums. In the financial year 1987–88, a total of 255 Australian films were successfully submitted to 59 international film festivals, a number of which received awards, including feature films such as *Travelling North*, *High Tide*, *The Tale of Ruby Rose* and *The Umbrella Woman* (also known as *The Good Wife*).

In 1987, 23 Australian-made feature films secured a theatrical release in Australia, while 10 and 8 features were released in the United States and the United Kingdom respectively. The major theatrical success of both 1986 and 1987 was *Crocodile Dundee*, which surpassed all other films at the box office both nationally and internationally. *Crocodile Dundee* was the most successful film ever released in Australia and it ranks as one of the most successful films in world-wide cinema history. *Crocodile Dundee II*, released in 1988, enjoyed one of the largest-attended cinema openings ever recorded in the United States, while creating an opening-day record in the United Kingdom.

In Australia, the film's release surpassed all previous Australian box office openers—including the forerunner *Crocodile Dundee* and other success stories such as *Star Wars* and *ET*.

Crocodile Dundee and *Crocodile Dundee II* have not been the only Australian films to achieve critical and financial success both at home and overseas. *Rikki and Pete*, *High Tide*, *The Man from Snowy River II* and *The Lighthorsemen* have secured theatrical releases and acclaim around the world. In addition to success on the mainstream feature film circuit, several Australian documentary films received impressive theatrical release in 1988—in particular *Cane Toads*: *An Unnatural History*, *South of the Border* and *Cannibal Tours*.

Australian films made for television, notably mini-series and drama serials, are in high demand overseas. Television channels in the United Kingdom, for example, regularly screen the television serials *Home and Away*, *The Flying Doctors*, *Richmond Hill* and *Neighbours*. *Neighbours* has become one of the top rating shows on United Kingdom television, rating consistently as one of the Top 10 programs. In all, 15 Australian feature films and 12 mini-series were screened on United Kingdom television in 1987. In 1988 viewers saw the telemovie *The First Kangaroos* (an Anglo-Australian co-production), and mini-series *My Brother Tom*, *Land of Hope* and *Winners*.

British cable and satellite services also screened a wide range of programs, including 18 Australian feature films broadcast as special programs in 1988. Meanwhile European satellite services are also broadening the reach of Australian film and television programs. Drama series and serials are especially popular in Europe. For example, the series *Sons and Daughters* has been broadcast across Europe and in the Bahamas, Egypt, Trinidad and Ireland.

On United States cable television an average of 2 Australian feature films are broadcast weekly. There is a preferred demand for feature films and telemovies for television broadcasting, however the mini-series *The Last Frontier* rated impressively when shown and the documentary *Suzi's Story* was extremely well received. In 1988 an 18 week special series of Australian telemovies called *Australian Movie This Week* screened on WYNC to good reviews, as well as the *Mother and Son* comedy series.

Early days

The first decades of the twentieth century saw a flourishing period of feature film production in Australia. Film makers were involved as early as 1886 in making documentaries of daily life, producing combination film and slide shows, and creating background films for stage plays. The highlight of this period was *The Story of the Kelly Gang* made in 1906 and believed to be the first feature-length film to be made in the world.

The 'Silent Era' of the Australian film industry, circa 1907–1928, produced well over 150 feature films. By 1929 a combination of forces—the introduction of sound films from overseas, an increasing stranglehold on the local market by American and British distributors, and the economic devastation caused by the Depression—signalled a serious downturn in Australian film production from which it would take decades to recover.

The transition to sound motion picture technology in the early 1930s was costly and difficult. However, a few directors adapted to the new technology and produced commercially successful films dealing with Australian subjects, often located in the Australian bush.

During the war years, feature film production dropped off as film makers became preoccupied with producing newsreels and documentaries which screened in the large number of cinemas. Whilst film production was down, attendances reached an all time peak in 1944–45, with 151 million admissions that year.

Local feature film production in the post-war period was marked by an influx of British and American film companies attracted to Australia by its exotic locations, resulting in productions such as the Ealing Studio's *The Overlanders*, Stanley Kramer's *On the Beach* and Fred Zinnemann's *The Sundowners*.

But there were few indigenous films being made, with the notable exception of Charles Chauvel's feature film *Jedda*, which was the first Australian-made colour feature film. *Jedda*'s theme was also uniquely Australian—it explored the issue of Aboriginal and white relations.

With theatrical production and distribution dominated by foreign companies, a whole generation of Australians were growing up and going to the movies but possibly never seeing an Australian film.

A renaissance

Then in the late 1960s and early 1970s, a period characterised by social change, political protest and cultural re-examination, an underground film culture began to develop, based primarily in Melbourne and Sydney. This time of questioning and change created an environment conducive to lobbying the government to stimulate a national film industry and provide the requested financial support. Australia's cultural heritage was under question and a film industry was promoted as an essential vehicle for a necessary cultural and national exploration of that heritage.

The government accepted the cultural arguments and, with its assistance, the film 'renaissance' began.

At first, films that emerged were primarily engaged in exploring facets of Australian humour, resulting in such films as *Stork*, *The Adventures of Barry Mackenzie*, and *Alvin Purple*. These films were financially successful both in Australia and overseas for there was a familiarity about the 'ocker' character which audiences found endearing. However, some audiences found this essential rawness embarrassing and wanted a more refined and sophisticated Australia to be reflected in its cinema.

Films such as *Sunday Too Far Away* and *Picnic at Hanging Rock* met with those requirements for a quality cinema rooted in the intrinsic 'Australian' experience and local literary traditions. The unique Australian landscape, good quality film production values and a stylised narrative simplicity became symbols of the Australian cinema, combining to capture the imagination of local and international audiences alike and generating pride in these filmic explorations of the Australian identity.

Documentary film making also attracted similar attention in the late 1970s as film makers expanded their range of subject matter toward more socio-politically oriented films covering such issues as Aboriginals, feminism, the environment, Asian, Pacific and Latin American politics, and communism.

Government assistance

Towards the end of the decade, escalating production costs and the film industry's desire to consolidate the ecomonic bases for production were prime factors in the Federal Government's introduction of a tax incentive scheme aimed at enhancing private investment in film. This scheme, known as Division 10BA of the *Income Tax Assessment Act 1936* was introduced in June 1981 to encourage private investment (via a tax deduction incentive) in feature films, documentaries, telemovies and television mini-series.

Investors could write off up to 150 per cent of capital expenditure on an acceptable project and be tax exempt for up to 50 per cent of net earnings from that investment.

The films produced in the first few years of the tax incentive scheme introduced the work of some of Australia's most respected film makers to the world, such as Bruce Beresford (*Puberty Blues*), Gillian Armstrong (*Starstruck*), George Miller (*Mad Max*) and Peter Weir (*The Year of Living Dangerously*).

Whilst historical-drama and literary adaptations remained popular film themes, film makers began to tackle more contemporary issues such as adolescence in *Puberty Blues*, new wave music in *Starstruck*, Asian politics in *Far East* and *The Year of Living Dangerously*, environmental issues in *Heatwave* and *The Killing of Angel Street*, socio-ethnic problems in *Moving Out* and the drug culture in *Monkey Grip* and *Winter of our Dreams*.

The films of the early 1980s continued the success stories of the 1970s and were acclaimed overseas by becoming box office hits. Films from this period include *Breaker Morant*, *Mad Max 2*, *Gallipoli*, *The Man from Snowy River* and *Phar Lap*.

At this time film makers began to explore the dramatic possibilities of television mini-series. The national and international success of the mini-series *A Town Like Alice* in 1980 stimulated television network demand, and in the next two years, no less than ten mini-series were produced.

Initially, historical themes predominated, ranging from the portrayal of life in the penal colonies in *For the Term of His Natural Life*, *Sara Dane* and *Under Capricorn*, bushranging in *The Last Outlaw*, the pioneering spirit in *All the Rivers Run*, the rise of nationalism in *Eureka Stockade*, treatment of Aboriginals in *Women of the Sun*, and industrial unrest in the 1920s in *The Waterfront*.

Funding for short drama, documentaries and experimental works, provided primarily through the Australian Film Commission, also created opportunities for upcoming directors to explore innovative ideas and techniques in film and to acquire practical film making skills. Many resulting films were adventurous and inventive, drawing upon European and American film models for their cinematic modes, then remodelling to reflect Australian cultural and social moods and trends. Some of today's best-known feature film directors, such as Peter Weir and Gillian Armstrong, made documentaries and short dramas during this period.

However, it became evident in 1983 that Australian film production was facing some serious problems as well as substantial cost increases which threatened the underlying economics of film production despite the generous film tax incentive scheme. Australian cinema, originally stimulated by the desire for cultural and social exploration through film, was becoming an industry predominantly predicated upon business concerns.

That year the government, responsive to these problems, and concerned with the overall quality of production and the influx of speculative promoters, introduced legislative amendments which reduced the allowable tax deduction under 10BA from 150 per cent to 130 per cent with a corresponding 33 per cent tax exemption on net returns from the investment. In addition a special fund of $5,000,000 was allocated to the Australian Film Commission. The fund, called 'The Special Production Fund', was designed to encourage production of high quality film and television drama and documentaries which carried the potential for commercial success.

The international market

By 1983, the nature of the Australian film industry had begun to change. The heavy reliance by producers on direct government investment was being replaced by private investors who were seeking viable investment properties, for the financial market had started to drive production. Investors were interested in recouping their investment and fulfilling the film's potential for profit.

Producers were obliged to guarantee investors some revenue and in order to do that they had to sell distribution rights prior to the film or television project being made. In order to attract the sort of money required, producers had to look toward the United States and Europe for distribution deals.

As a result of this, in 1984 and 1985, there emerged an increasing reliance on a number of international distributors who were able to pay up-front advances for a program. These advances comprised the bulk of the film's overall budget.

With such a dependence on the international market, there was an inherent tension between the objectives of developing an Australian cinema and the need to meet the supply needs of distributors.

For many producers this posed a challenge: how to make films which had an Australian character and flavour, but which also appealed to an international audience, beyond the historical-drama genre which had already proved so popular.

Film makers rose to this challenge by developing diverse styles and narratives as they explored different genres of film making and new presentations of the Australian character, landscape and mythologies. This diversity was reflected in such films as *Australian Dream*, *Emoh Ruo*—comedies, *A Street to Die*, *Fran*, *A Test of Love*—quasi-documentaries, *Empty Beach*, *Fair Game*, *Mad Max; Beyond Thunderdome*—action dramas, *Cactus* and *The More Things Change*—human relationship films.

With this increasing pressure to work primarily within a business context, to make largely entertaining and commercially successful films, some critics felt that a certain integrity and commitment to the art of film making had been lost. Film makers were being asked to be up-front businessmen and women, to divert energies away from the creative process into the entrepeneurial and to make creative compromises in order to satisfy purely commercial demands.

In a creative context, this was undoubtedly true. On the other hand, Australia could not afford to sustain its film and television output from domestic box office receipts and television sales alone.

Revenue had to be obtained from overseas, and it was clear that in the business context, Australian programs were capable of obtaining wide international distribution.

In November 1985 a co-production scheme was introduced to assist local producers in collaborating with foreign partners on officially approved co-ventures while still receiving the benefits of the 10BA tax incentive scheme. Administered by the Australian Film Commission, arrangements have been made with CNC in France, the BBC and Channel Four in the United Kingdom, the New Zealand Film Commission, and the Corporation for Public Broadcasting in the United States.

Government organisations

By mid 1985 it had again become clear that the tax incentive scheme was pushing producers to obtain extremely high pre-sales and that the costs associated with attracting film investment were rising significantly. There was an increasing uncertainty about the level of available finance when the 10BA tax deduction/exemption was further reduced to 120/20 per cent. The industry's financial base was shaky.

It was at this time that the Australian Film Commission proposed the creation of an independent Australian Film Finance Corporation to replace the 10BA tax concessions. The proposed Corporation would operate like a bank and loans would be secured against the rights of the program or against sales agreements already in place. In 1988, the Federal Government established the Australian Film Finance Corporation with a first year funding of $70 million, while further reducing 10BA tax concession to a 100 per cent deduction with all returns from the investment being treated as taxable income.

In addition to the Film Finance Corporation, other Commonwealth and State funded government organisations play an important role in providing financial assistance for the development of an indigeneous film culture.

The Australian Film Commission is the Commonwealth statutory film authority established in 1975. The Australian Film Commission's principal functions are to provide development funding and equity investment for film and television, encourage innovative and experimental film making, provide support and advice to developing film makers, assist in the marketing, distribution, exhibition and broadcasting of Australian programs, provide a central information resource, advise government on film matters and monitor developments in the industry.

Independent film bodies also operate in New South Wales, Queensland, South Australia, Victoria and Western Australia and are funded by the respective State governments. These bodies contribute toward encouraging local film making by providing marketing and production expertise and liaising with government on film policy.

With the establishment of the Australian Film Finance Corporation there is now a new financial climate for production in Australia, with an optimism and invigorated energy in the industry.

Australia can enter the 1990s with the knowledge that audiences the world over have a window into the country that reveals a sophisticated and culturally mature society—something that is possible in large part because of the vision, creative energy and expertise of the Australian film and television industry.

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SCIENCE AND TECHNOLOGY

Science and technology directly influence the strength and competitiveness of industry by providing a basis for technological change and thereby encouraging economic growth and development. They can be seen as making major contributions to the achievement of many of Australia's social, economic and industrial goals.

There are many organisations in Australia concerned in some way with the development of science and technology in Australia.

The Commonwealth Government's conviction of the importance of science and technology is reflected in the functions of the Department of Industry, Technology and Commerce. Apart from having general responsibility for science and technology, the Department is concerned with the development and maintenance of Australia's scientific and technological capability.

A number of other Commonwealth Government organisations either support or carry out scientific and technological activities. State governments are also involved in science and technology via State government departments, science and technology councils and other organisations. Non-government organisations participating in scientific and technological activities include higher education institutions, professional and learned bodies, private organisations and industry groups.

Information on scientific and technological activities presented in this chapter includes:

- Australian Bureau of Statistics data on resources devoted to research and experimental development (R&D) and other innovative activities. The R&D surveys cover organisations in the business enterprise, general government, private non-profit and higher education sectors.
- Department of Industry, Technology and Commerce statistics on expenditure on R&D and other scientific and technological activities carried out or funded by Commonwealth Government organisations.
- Australian Bureau of Statistics information on manufacturing industry technology operations and trade categorised into high technology, medium technology and low technology (industries or commodities).

The Department of Industry, Technology and Commerce—DITAC

Following the Administrative Arrangements Order of 24 July 1987, the Industry, Technology and Commerce portfolio has primary responsibility for advising the government and implementing policy in relation to Australian science and technology; manufacturing and service industries; export services and customs and excise.

Within the portfolio, DITAC is the central point of contact for industry, unions, other Commonwealth departments, and State and local governments on matters relating to manufacturing, and service industries. DITAC incorporates parts of the former Departments of Science, Trade, and Housing and Construction. The major scientific and technological aspects of the portfolio include the following bodies and activities.

The Commonwealth Scientific and Industrial Research Organization—CSIRO

CSIRO was established as an independent statutory authority by the *Science and Industry Research Act 1949*. The Act has been amended on a number of occasions since then, but the most significant amendments were made in 1978, following the government-instigated 'Birch Committee of Inquiry'. More recently, in November 1986, it was amended to reflect the decisions on the recommendations of the 'Review of Public Investment in Research and Development in Australia', specifically including CSIRO, carried out by the Australian Science and Technology Council (ASTEC).

The decisions announced by the Government in 1986, and reflected in the 1986 amendments to the Act, confirm that CSIRO's primary role is to continue as an applications-oriented research organisation in support of major industry sectors and selected areas of community interest, but with a stronger commitment to the effective transfer of its results to users. The most recent amendments have also included changes to the top management structure and the Organisation's advisory mechanisms.

Briefly, CSIRO's primary statutory functions are to:

- carry out scientific research for the benefit of Australian industry, the community, national objectives, national or international responsibilities, or for any other purpose determined by the Minister;
- encourage or facilitate the application or utilisation of the results of such research.

Other functions include dissemination and publication of scientific information, international liaison in scientific matters, and provision of services and facilities.

The research work of the Organisation is carried out in Institutes, each headed by a Director and each specifically established to undertake work in support of industry or community interest sectors of the Australian economy. Institutes are composed of Divisions, which are individually responsible for broad programs of research in support of the objectives of the Institute.

Institute of Information and Communications Technologies: Divisions of Information Technology; Radiophysics; Mathematics and Statistics; CSIRO Office of Space Science and Applications.

Institute of Industrial Technologies: Divisions of Manufacturing Technology; Materials Science and Technology; Applied Physics; Chemicals and Polymers; Biotechnology.

Institute of Minerals, Energy and Construction: Divisions of Building, Construction and Energy (now incorporates National Building Technology Centre); Geoscience; Exploration; Mineral and Process Engineering; Mineral Products; Coal Technology; Fuel Technology; Geomechanics.

Institute of Animal Production and Processing: Divisions of Animal Health; Laboratory Animal Production; Wool Technology; Tropical Animal Production; Food Processing; Human Nutrition; Australian Animal Health.

Institute of Plant Production and Processing: Divisions of Plant Industry; Tropical Crops and Pastures; Horticulture; Entomology; Soils; Forestry and Forest Products.

Institute of Natural Resources and Environment: Divisions of Water Resources; Fisheries; Oceanography; Atmospheric Research; Wildlife and Ecology; Centre for Environmental Mechanics.

CSIRO has a total staff of more than 7,200 in more than 100 locations throughout Australia. About one-third of the staff are professional scientists, with the others providing technical, administrative or other support. CSIRO's budget for 1987–88 was $452 million.

Commercial activities

The main aim of CSIRO's commercial activities has been to achieve the greatest possible economic and social benefit to Australia by contributing to commercially viable innovation. During recent years, there has been a greater emphasis on research that can be exploited by Australian industry, or that will bring more substantial benefits to Australia. The selection of commercial partners with the capability of developing, applying and marketing innovations has become even more important in the planning and evaluation of research in CSIRO. A second but also important aim of CSIRO's commercial policy is to continue to maximise CSIRO's revenue from its commercial transactions.

Sirotech Limited

In the first few years of its operation, Sirotech has come to the forefront in technology transfer in Australia. Sirotech was established by CSIRO in 1985 to help transfer research results with sound commercial potential to the Australian industry most suited to making use of those results. Sirotech has been able to help identify and evaluate commercial opportunities, package and market them to industry and negotiate terms and finalise agreements. As a company set up to 'act commercially', it has continued to develop its capabilities in patent and intellectual property management, technology evaluation, market assessment and advice, and successful negotiation of commercial agreements.

The Australian Nuclear Science and Technology Organisation—ANSTO

ANSTO was established on 27 April 1987 as a statutory authority by the Commonwealth Parliament under the *Australian Nuclear Science and Technology Organisation Act Number 3 of 1987*. ANSTO replaces the Australian Atomic Energy Commission, which had been in existence since 1953.

ANSTO has its headquarters and most of its staff at the Lucas Heights Research Laboratories, 30 kilometres south-west of Sydney. Of its staff of 915, about 250 are qualified scientists and engineers. Its mission is to benefit the Australian community by the development and peaceful application of nuclear science and technology in industry, medicine, agriculture, science and other fields. In this mission, ANSTO maintains a high regional and international standing in nuclear matters and both provides advice to and carries out tasks as required by the Commonwealth Government.

The five major research program areas of ANSTO are:

- the application of radioisotopes and radiation;
- the application of nuclear physics;
- biomedicine and health;
- environmental science;
- advanced materials.

ANSTO is broadening its commercial ethos with research being directed to achieve the Organisation's social and corporate goals. Because its multidisciplinary body of expertise is located at one centre, together with its two nuclear research reactors and other specialised laboratory equipment, ANSTO can provide a range of unique and essential techniques and services to the Australian community. Established under the ANSTO legislation is the independent Nuclear Safety Bureau which is responsible for monitoring and reviewing the safety of nuclear reactor plant operated by ANSTO. The Bureau reports to the Minister responsible for administration of the ANSTO Act. ANSTO's annual expenditure is in the order of $53 million with sales revenue of approximately $4.3 million.

The 150 per cent Tax Concession for Research and Development Incentive

The 150 per cent research and development (R&D) tax incentive is the Government's major initiative to make industry more innovative and internationally competitive through increased R&D. It was designed to redress the very low investment by Australian industry in R&D.

The incentive is available to companies incorporated in Australia and applies to expenditure on R&D up until 30 June 1991. It allows a deduction of up to 150 per cent of eligible expenditure against assessable income. With the current corporate tax rate of 39 per cent, this reduces the after tax cost of R&D expenditure to as low as 41.5 cents in the dollar.

Over 2,000 companies of all descriptions have successfully been using the incentive in its first three years to build their product range for the 1990s. It is expected that the next three years will see a further increase in the number of R&D performers and in their investment in R&D.

The Grants for Industry Research and Development Scheme

The scheme provides grants to support approved R&D projects in three areas, being: discretionary grants of up to 50 per cent of agreed costs, generally for companies unable to benefit from the tax concession; generic technology grants, providing up to 90 per cent of agreed costs, designed to support new technologies with particular significance for industry development; and national interest agreements, providing up to 100 per cent of costs for R&D projects with significant benefits for Australia. The scheme applied from 1 July 1986 and replaced the Australian Industrial Research and Development Incentives Scheme.

National Procurement Development Program—NPDP

Acting on the recommendations of the Inglis Committee of Review of Government High Technology Purchasing Arrangements, the Commonwealth agreed to establish the Program to fund research, development, trials and demonstration projects to encourage government departments and agencies to seek new Australian solutions for their forward procurement needs.

The NPDP differs from other Board schemes by providing assistance for industry to undertake trials and demonstrations, as well as research and development.

Patent, Trade Marks and Designs Offices

The Offices, through their Central Office in Canberra and Sub-offices in each State capital, administer Australia's industrial property systems for the protection of patents, designs and trade marks. These systems encourage investment in, and innovations based on, new technology and industrial designs, and promote orderly marketing through registered trade marks.

The Offices maintain an information data base on inventions and industrial designs to facilitate the transfer and diffusion of technology. A data base of registered trade marks is also maintained. This information is available to the public through the Offices' Sub-offices.

The National Industry Extension Service—NIES

The NIES is a joint Commonwealth and State Government initiative established in July 1986 to upgrade and coordinate the wide range of advisory and assistance services available to industry. NIES is helping Australian firms achieve international competitiveness by encouraging the adoption of improved technologies, management and business practices. Through a single contact point in each State and Territory, firms can be provided with information, or referred to appropriate specialist sources of advice, on issues that include strategic planning, product innovation, design, quality, the application of new technologies, marketing, the contribution of labour, and issues of particular concern to small business. Financial assistance may be provided towards the cost of business planning services.

Funds are provided through DITAC's Budget allocation to the States and Territories to assist them in delivering NIES services to industry. In addition, funding is provided for the national NIES program, which includes the development of new elements of the program and contracting the non-profit providers of extension services—the Technology Transfer Council, and the Australian Design Council—to conduct national interest programs.

The Management and Investment Companies Program

In 1984, the Government established the Management and Investment Companies Licensing Board to encourage the development of a venture capital market in Australia. The main objective of the program is to attract management and financial support for the start-up and early growth of those Australian based enterprises which have the potential to grow rapidly into substantial businesses, are export oriented and use innovative technology.

The Bureau of Industry Economics

Primary responsibility for the Department's Industry Research Program lies with the Bureau of Industry Economics, which was established in 1977 as a centre for research into the Australian manufacturing and commerce sectors of the economy. The Bureau is assisted in devising its research program by a Council of Advice, comprising business and union leaders and prominent academics.

The Bureau's research program is concerned with a broad range of industry policy issues, including:

- individual industry studies as well as the investigations of general issues affecting a broad range of manufacturing and service industries;
- forward-looking studies on the likely future development of Australian industry, as well as detailed investigations of the factors responsible for the performance of industry in the recent past;
- aspects of industrial technology and production as well as pricing and marketing issues.

Evaluation of the effectiveness of existing government policies and programs is an important part of the Bureau's research. The Bureau also contributes to policy reviews, including Industries Assistance Commission and other public inquiries, and assesses the economic aspects of papers put to it by industry and trade unions.

The Snowy Mountains Engineering Corporation—SMEC

An Australian Government owned business enterprise, the Corporation utilises the professional engineering and technical expertise developed during design and construction of the Snowy Mountains Hydro-Electric Scheme.

Since the establishment of the organisation in 1970, the range of SMEC's expertise has been expanded by the addition to its staff of specialists in a number of disciplines and SMEC has now grown into a multidisciplined consulting organisation of international standing in civil, electrical and mechanical engineering. SMEC has completed some 1,350 projects in 48 countries, including Australia. These projects have a capital value of $A3,650 million and involved fees of $A270 million.

A full range of expert engineering consulting services are provided by SMEC for pre-feasibility investigations, feasibility studies, field investigations and laboratory studies, design and preparation of contract documents, contract management and construction supervision, operation and maintenance, training and project management.

Projects are in the fields of hydro-electric and multipurpose water resources development, river basin studies, dams and power stations, power transmission and distribution, irrigation and flood control, roads and bridges, tunnels, shafts and underground works and pipelines.

SMEC, as well as working on projects in all States of Australia, has provided consulting services for projects throughout Asia and the Pacific islands, in Africa, the Middle East, and in North and South America.

SMEC is registered as an Engineering Consultant with United Nations agencies, the World Bank, Asian Development Bank, Commonwealth Fund for technical cooperation, Kuwait Fund for Arab Economic Development, and the Arab Bank for Economic Development in

Africa. Projects have been successfully carried out in many countries, using finance from these donor and lending institutions.

The Corporation was a recipient of two Australian Government Export Awards in 1977 and 1982, and the Governor-General's Award for Export Excellence in 1984.

SMEC has a staff of over 200 professionals, technical and administrative support staff. Its headquarters are in Cooma, NSW. Branch offices are located in Sydney, Brisbane, Jakarta and Kuala Lumpur, with project offices in many other locations.

The Australian Institute of Marine Science—AIMS

AIMS was established as an independent statutary authority by the *Australian Institute of Marine Science Act 1972*. The responsibilities of the Institute are to conduct research and to arrange and cooperate with other institutions or individuals, in conducting marine science research as well as to collect and disseminate information relating to marine science. Its objectives are to advance the development of national knowledge of the marine environment; to communicate this knowledge so that it can be applied to the development, conservation and management of the marine resources; to create opportunities for technological and commercial development and to foster cooperation between researchers with similar interests.

The Institute's core research is organised into four closely integrated programs—coastal processes and resources, reef studies, environmental studies and marine systems analysis. These core research programs have been augmented by funding from other agencies which allows for continuing major research on the crown-of-thorns starfish phenomenon, accelerated research on weather records in corals and mangrove forests and assistance to ASEAN countries to develop technologies for assessing their coastal marine resources, especially mangroves and coral reefs.

The Institute's total budget in 1987–88 was $11.4 million, of which $1.2 million was funded from other agencies. Its core staff of 106 is supplemented by some 22 staff funded by other agencies.

The Commission for the Future

The Commission's objective of raising community awareness of all aspects of the social and economic impacts of technological change is based on the premise that industrial restructuring and technological development alone are insufficient for the development of a productive Australian culture. A need exists for an information and education program directed at increasing support for, and understanding of, scientific and technological change and long-term options for Australia.

The Australian Space Board

The Board was established to advise the government on space R&D priorities in accordance with the government's broader industry and technology policies. Part of the Board's functions include supervising and accounting for National Space Program activities funded through the Department. Those activities include providing financial incentives to companies for involvement in space-related technologies and R&D.

The Australian Space Office

The Australian Space Office was established within the Department in 1987 to provide the driving force for development of a commercially viable export oriented Australian space industry. Expert industry, technological and scientific advice is brought to bear on this task via the Australian Space Board which comprise eminent businessmen, prominent academics and relevant government representatives.

The Office has initiated a program of activities to identify opportunities, stimulate entrepreneurial attitudes and overcome barriers in order to secure for Australia access to the lucrative international market for high technology space-related products and services:

- the Office is working directly with Australian industry in undertaking an in-depth examination of potential industrial opportunities in the areas of remote sensing and satellite communications;
- the proposal to establish a commercial spaceport at Cape York holds exciting possibilities for Australian entry into the space market and the Office is coordinating Federal interests;
- $14 million has been allocated to date under the National Space Program in support of development projects aimed at assisting Australian industry to overcome the 'qualification hurdle' to the international space market;
- the Office is establishing close links with the Australian space science community in order to influence future research directions and priorities towards areas of identified industrial potential; and
- a program of international space industry missions has been initiated in order to facilitate Australian industry participation in the major space programs of other countries.

The National Standards Commission

The National Standards Commission was established in 1948 as a statutory authority and operates under the *National Measurement Act 1960*. The Commission has responsibility for coordinating the Australian National Measurement System and specific responsibilities for legal metrology, the pattern approval of measuring instruments in use for trade, and the completion of metrication.

The Commission provides the Chairman and secretariat for joint Commonwealth, State and Territory Committees developing uniform trade measurement and packaging legislation.

Close liaison is maintained with the manufacturing industry, retailers, consumers and other users to ensure that the measurement system is meeting their needs.

Current Commission programs on measurement policy include precise time measurement, oil, gas flow measurement and the contribution that measurement makes to quality.

The Commission has regular contacts overseas, provides the Australian member accredited to the International Organisation of Legal Metrology and provides training courses for countries in the Asia–Pacific region.

Expenditure

Science and technology (S&T) expenditures within the portfolio of the Minister for Industry, Technology and Commerce for 1986–87 were as follows:

Intramural (in-house) R&D expenditure $454 million.

Extramural (grants, contracts, etc.) R&D expenditure $60 million.

S&T (including R&D) expenditure $688 million.

Other Commonwealth Government Science and Technology Activities

Many other Commonwealth Government agencies play a significant role in the science and technology area. A number of these agencies are involved with R&D activities either as funders, performers or both; others are active in the S&T areas of information dissemination, scientific services and scientific training.

The Australian International Development Assistance Bureau—AIDAB

The Bureau provides funds under a number of arrangements to provide scientific development and training in many third world countries. In 1986–87 the Bureau spent $219 million on science and technology, $39 million of which was provided as R&D funding.

The Defence Science and Technology Organisation—DSTO

DSTO is a major R&D performer in the defence field in Australia, spending $154 million on its own research programs in 1986–87. Other S&T activities include provision of scientific and technological advice on defence policy matters and equipment, and development and maintenance of a skill base in defence science and technology.

The Commonwealth Department of Employment, Education and Training

The Department funds scientific and technical training in tertiary institutions via the Commonwealth Tertiary Education Commission. In addition, the Department has established the Australian Research Council to provide advice on national research policy priorities and on the coordination of national research effort. The Council will also coordinate and advise on specific research funds for tertiary education institutes, post-graduate research awards and research grants and fellowship schemes.

The Department's total S&T expenditure for 1986–87 was $213 million of which $204 million was for R&D. Of the $204 million R&D expenditure the majority ($19 million) was used to provide research funding.

The Commonwealth Department of Community Services and Health

The Department is the major Australian provider of medical research funds through the National Health and Medical Research Council. In 1986–87, the value of grants awarded to medical researchers was $59 million. Other S&T activities of the Department include provision of funds for the National Biological Standards Laboratory ($13 million in 1986–87), Commonwealth Pathology Laboratories ($17 million in 1986–87) and the Commonwealth Serum Laboratories ($10 million in 1986–87).

The Australian Telecommunications Commission

'Telecom Australia' operates and maintains the national telecommunications network. It is a major R&D and S&T performer ($56 million and $141 million respectively in 1986–87). Its R&D activities include planning and specification of Australian telecommunications requirements and the solution of technical problems arising during the operation of its telecommunication networks. Telecom's other S&T activities include planning and operation of new facilities and development of the network infrastructure.

The Australian Bureau of Statistics

The Bureau is the Commonwealth Government's central statistical authority and is responsible for providing statistical services to government and private users. Other activities include the coordination of statistical activities of official bodies and the provision of statistical advice and assistance to official bodies. All of the Bureau's expenditure ($165 million in 1986–87) is considered to be on science and technology (predominantly data collection in the social sciences), with a small proportion ($10 million in 1986–87) attributable to R&D.

The Bureau of Meteorology

The Bureau provides the national meteorological service and performs the R&D needed to maintain the service. The Bureau's total S&T expenditure for 1986–87 was $65 million, of which $3 million was for R&D.

The Antarctic Division of the Department of the Arts, Sport, the Environment, Tourism and Territories

The Division manages Australia's Antarctic program. It organises expeditions and maintains research stations, as well as funding, coordinating and conducting research. The Division's S&T spending for 1986–87 was $42 million and its R&D expenditure was $27 million.

The Rural Industry Research Schemes

The Schemes, administered by the Department of Primary Industries and Energy, provide funds for rural research and dissemination of agricultural information relating to production improvement within the industry. Funding for most of the Schemes comes equally from the Commonwealth and industry (via a levy on produce). In 1986–87, the Schemes contributed $29 million to rural research.

The Bureau of Mineral Resources—BMR

The Bureau's main functions are to understand and assess Australian geology as a basis for mineral exploration, to be the primary information source for geoscience data, and to monitor earthquake activity and underground nuclear explosions. BMR's R&D activities are in the areas of fossil fuel, minerals and ground water; spending on R&D in 1986–87 was $31 million. Total S&T expenditure in 1986–87 was $37 million.

Advice on science and technology

Apart from DITAC, the most significant Commonwealth Government advisory body on science and technology is the Australian Science and Technology Council (ASTEC), a statutory authority advising the Prime Minister and government on science and technology matters. ASTEC's 1986–87 expenditure was $1.4 million. For a fuller discussion of ASTEC's role and functions *see Year Book* No. 70.

State government science and technology activities

State governments are major performers and supporters of scientific and technological activities. Many States have particular departments established for the purpose of encouraging and coordinating the use of technology in industry (e.g. the Victorian Department of Industry, Technology and Resources). Several States (New South Wales, Queensland, Western Australia and South Australia) have also established science and technology councils which provide advice to State governments on science and technology matters and promote the expansion of technology.

In addition to fostering science and technology, many State government departments are large performers of scientific and technological activities. Traditionally, for instance, those departments involved with agriculture (e.g. the Victorian Department of Agriculture and Rural Affairs and various State departments of agriculture) spend large sums on the R&D which they perform and also have a high profile in the general S&T activities of extension and laboratory services.

The total 1986–87 expenditure for R&D carried out by State government organisations on agricultural objectives was $227 million, 64 per cent of total State government R&D spending for that year. Other major areas of State government R&D activity are Forestry and Fisheries ($33 million in 1986–87) and Health ($29 million in 1986–87).

Tertiary education institutions' science and technology activities

Tertiary education institutions play a vital role in the two major S&T areas. These being R&D and scientific and technical training.

Universities receive direct funding for research purposes from a number of sources, the major one being the Commonwealth Government. Commonwealth funds include those administered by the Commonwealth Tertiary Education Commission (special research grants, research equipment grants); those grants and awards distributed through the Australian Research Council; and grants awarded by the National Health and Medical Research Council and through the National Energy Research, Development and Demonstration Program. Direct Commonwealth research funding for 1986 totalled $126 million. Direct funds for research from other organisations and individuals totalled $58 million in 1986.

Indirect research funding for universities includes both the proportion of general funds from the States Grants (Tertiary Education Assistance) Act allocated by universities to research ($104.0 million in 1986) and the amount attributable to research but coming from general teaching-and-research funds (e.g. the estimated research portion of the salaries of teaching-and-research staff). The latest available figures for total university research expenditure (direct plus indirect sources) came from the ABS R&D survey for 1986 which gives an estimated expenditure of $845 million.

CAEs and institutes of TAFE receive very little research funding from the Commonwealth. The Australian Bureau of Statistics measures R&D effort for CAEs ($37 million in 1986) but does not survey institutes of TAFE.

Data on university, advanced education and TAFE enrolments are presented in Chapter 10, Education. That chapter also gives a more detailed picture of higher education facilities in Australia.

Other Organisations' Science and Technology Activities

There are many other non-government organisations playing an important part in Australia's scientific and technological development. They include various learned and professional bodies such as the Australian Academy of Science, the Australian Academy of Technological Science, the Academy of Social Sciences in Australia and the Australian and New Zealand Association for the Advancement of Science. Their activities include provision of advice in the relevant scientific fields, dissemination of scientific information and enhancement of communication on scientific matters.

A number of private organisations from time to time provide advice to government on specific matters relating to science and technology. Examples from the business sector are the Australian Chamber of Manufacturers, the Business Council of Australia and the Confederation of Australian Industry. Other organisations with an interest in scientific and technological issues include trade unions, industry groups with an interest in specific technologies and individual private organisations.

As performers of research and experimental development, private organisations in Australia are making an increasingly important contribution to Australia's R&D effort. Private business enterprises, for instance, spent an estimated $1,069 million on R&D in 1986–87, a figure which, whilst still relatively low compared with the spending of comparable OECD countries, represents an increase of 66 per cent over 1984–85 expenditure. Private non-profit organisations in 1986–87 spent $49 million on R&D, the majority of it on health related research.

Statistics on Science and Technology

Expenditure and human resources devoted to research and experimental development

The Australian Bureau of Statistics' Surveys of Research and Experimental Development provide comprehensive data on research and experimental development activities in Australia by organisations in the business enterprise, general government, higher education and private non-profit sectors. They also provide some data on other innovative activities, such as technical know-how payments and receipts and patenting activity. Activities not covered by the survey include scientific or technological services, extension services, education and training, etc.

The first comprehensive survey on R&D was carried out for the financial year 1968–69. There have been six major surveys since then, the latest for which comprehensive results are available being in respect of 1986–87 (1986 calendar year for the Higher Education Sector). Less detailed data in respect of 1985–86 are available from the smaller 'inter year' R&D survey conducted by the Bureau.

The estimate of gross expenditure on R&D (GERD) carried out in Australia, as derived from the results of the 1986–87 survey, is $3,256 million. This represents a 35 per cent increase compared with the 1984–85 survey. At constant (1984–85) prices, GERD increased by 18 per cent over the same period. The total estimate of human resources devoted to R&D during 1986–87 in Australia was 58,521 person years; this represented a 15 per cent increase compared with the 1984–85 survey.

See Year Book No. 70 for a detailed description of survey methods and concepts.

Definitions

The survey's definitions follow guidelines described by the OECD for national R&D surveys. The OECD defines R&D as comprising 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications'. The Bureau provides sector specific definitions which clarify the OECD definitions for respondents and users (*see* ABS catalogue 8112.0).

Survey results

A summary of results for 1968–69 is given in *Year Book* No. 60. Results for the second survey, 1973–74; the third survey, 1976–77; and the fourth survey, 1978–79, are given in *Year Books* No. 61, 64, and 67 respectively.

A summary of results from the 1981–82, 1984–85 and 1986–87 surveys is presented below.

HUMAN RESOURCES OF EFFORT DEVOTED TO RESEARCH AND EXPERIMENTAL DEVELOPMENT, AUSTRALIA

(person years)

Sector	*1981–82*	*1984–85*	*1986–87*
Business Enterprises—			
Private Sector	7,478	11,022	14,998
Public Sector	1,010	1,238	1,370
General Government—			
Commonwealth	11,412	11,119	11,429
State	6,382	6,018	6,551
Higher Education—			
Universities	17,699	19,814	21,713
CAEs	542	1,030	1,529
Private non-profit	688	712	931
Total	**45,211**	**50,953**	**58,521**

GROSS EXPENDITURE ON RESEARCH AND EXPERIMENTAL DEVELOPMENT (GERD) CARRIED OUT IN AUSTRALIA
GERD AT CURRENT AND AVERAGE 1984–85 PRICES

($ million)

Sector	*1981–82*	*1984–85*	*1986–87*
	AT CURRENT PRICES		
Business Enterprises—			
Private Sector	318.9	645.7	1,068.6
Public Sector	54.8	77.3	120.7
General Government—			
Commonwealth	514.8	669.4	782.3
State	199.9	285.9	353.4
Higher Education—			
Universities	443.5	663.1	845.2
CAEs	9.0	22.7	36.6
Private non-profit	20.9	43.5	49.1
Total	**1,561.8**	**2,407.5**	**3,256.0**
	AT AVERAGE 1984–85 PRICES		
Business Enterprises—			
Private Sector	393.4	645.7	922.3
Public Sector	77.4	77.3	104.3
General government—			
Commonwealth	645.2	669.4	689.6
State	261.5	285.9	309.0
Higher Education—			
Universities	638.6	679.9	751.1
CAEs	11.6	23.3	32.2
Private non-profit	27.1	43.5	44.5
Total	**2,054.8**	**2,425.0**	**2,853.1**

GROSS EXPENDITURE ON RESEARCH AND EXPERIMENTAL DEVELOPMENT (GERD) CARRIED OUT IN AUSTRALIA
GERD BY SECTOR BY SOURCE OF FUNDS
($'000)

Sector	*Total*	*Commonwealth government*	*State government*	*Business enterprises*	*Higher education*	*Private non-profit and other Australian*	*Overseas*
			1984–85				
Business Enterprises—							
Private Sector	645,659	62,815	2,948	566,709	210	236	12,741
Public Sector	77,331	4,786	310	72,204			31
General Government—							
Commonwealth	669,425	651,608	1,131	12,352	73	1,044	3,218
State	285,896	24,143	241,724	10,082	231	9,139	576
Higher Education—							
Universities	663,054	621,030	6,512	8,174	3,977	18,274	5,086
CAEs	22,673	4,232	1,880	2,861	12,503	858	339
Private non-profit	43,488	17,578	7,906	1,936	285	11,741	4,043
Total	**2,407,524**	**1,386,190**	**262,410**	**674,318**	**17,279**	**41,293**	**26,034**
			1986–87				
Business Enterprises—							
Private Sector	1,068,632	53,407	4,219	997,554	269	424	13,755
Public Sector	120,715	8,664		111,055			—
General Government—							
Commonwealth	782,298	750,756	3,833	22,881	108	347	4,374
State	353,389	30,809	290,501	17,415	413	13,450	802
Higher Education							
Universities	845,223	789,246	9,010	9,659	8,943	22,120	6,245
CAEs	36,639	6,305	2,975	8,805	17,207	1,167	180
Private non-profit	49,107	19,843	6,705	2,211	411	15,468	4,468
Total	**3,256,003**	**1,659,029**	**317,242**	**1,169,580**	**27,352**	**52,976**	**29,825**

Business enterprise sector

The estimate of expenditure on R&D carried out in Australia by private and public business enterprises during 1986–87 is $1,189 million at *current* prices. This represents a 64 per cent increase in expenditure compared with 1984–85. At average 1984–85 prices, R&D expenditure is estimated to have increased by 42 per cent over the same period.

RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY BUSINESS ENTERPRISES (a), AUSTRALIA DETAILS OF RESOURCES DEVOTED TO R&D BY INDUSTRY OF ENTERPRISE (b)

Industry of enterprise		*Enterprises (number)*			*Expenditure on R&D ($m)*				*Person years of effort on R&D*			
ASIC Code	*Description*	*1981–82*	*1984–85r*	*1986–87*	*1981–82*	*1984–85r*	*1985–86(c)r*	*1986–87*	*1981–82*	*1984–85r*	*1985–86(c)r*	*1986–87*
11–15	*Mining (excluding services to mining)*	*23*	*31*	*37*	*22.6*	*29.8*	*n.a.*	*51.1*	*381*	*297*	*n.a.*	*347*
	Manufacturing—											
21	Food, beverages and tobacco	72	92	99	14.1	30.9	n.a.	55.0	390	658	n.a.	778
23–24	Textiles, clothing and footwear	16	27	35	0.8	5.6	n.a.	12.9	24	57	n.a.	119
25	Wood, wood products and furniture	19	29	46	1.7	3.4	n.a.	6.3	43	69	n.a.	118
26	Paper, paper products, printing and publishing	12	22	31	5.3	6.4	n.a.	9.4	125	139	n.a.	156
27	Chemical, petroleum and coal products	128	180	267	57.3	91.1	96.8	119.0	1,307	1,576	1,596	1,832
28	Non-metallic mineral products	22	33	37	5.8	12.9	n.a.	14.9	126	223	n.a.	172
29	Basic metal products	27	32	45	27.1	46.1	66.7	64.5	672	681	889	861
31	Fabricated metal products	83	92	125	7.1	15.6	n.a.	21.5	170	309	n.a.	379
32	Transport equipment	54	65	96	48.1	90.1	124.3	126.9	1,087	1,476	1,702	1,552
334	Photographic, professional and scientific equipment	26	30	64	6.3	16.5	n.a.	25.3	183	283	n.a.	426
335	Appliances and electrical equipment	159	286	580	41.4	84.4	117.0	172.4	1,029	1,611	1,982	2,790
336	Industrial machinery and equipment	156	177	242	15.7	28.5	n.a.	41.9	443	566	n.a.	692
34	Miscellaneous manufacturing	66	77	96	7.6	8.5	n.a.	15.9	186	178	n.a.	245
C	*Total manufacturing*	*840*	*1,142*	*1,763*	*238.3*	*440.1*	*555.4*	*685.9*	*5,784*	*7,824*	*8,824*	*10,120*
	Other industries—											
F	Wholesale and retail trade	106	194	286	12.5	36.5	n.a.	68.4	296	641	n.a.	1,019
63	Property and business services	206	450	569	20.2	82.2	n.a.	170.7	499	1,311	n.a.	2,245
8461	Research and scientific institutions	31	43	79	23.0	28.8	n.a.	44.8	485	497	n.a.	636
(d)	Other n.e.c.	72	125	198	57.1	105.7	n.a.	168.4	1,042	1,691	n.a.	2,000
16, D–L	*Total other industries*	*415*	*812*	*1,132*	*112.9*	*253.1*	*n.a.*	*452.4*	*2,324*	*4,140*	*n.a.*	*5,901*
	Total all industries	**1,278**	**1,985**	**2,932**	**373.7**	**723.0**	**922.1**	**1,189.3**	**8,489**	**12,260**	**14,128**	**16,368**
	Private Sector Contribution	1,212	1,938	2,873	318.9	645.7	826.4	1,068.6	7,478	11,022	12,775	14,998
	Public Sector Contribution	66	47	59	54.8	77.3	95.7	120.7	1,010	1,238	1,353	1,370

(a) Excludes enterprises in ASIC Division 'A'. *(b)* 1984–85 and 1986–87 data are classified by the 1983 edition of ASIC; 1981–82 data are classified by the 1978 version of ASIC. If the 1983 version were used to classify 1981–82 data, only minor differences would occur. *(c)* Represents the most detailed data available for 1985–86. Manufacturing total not equal to sum of manufacturing components. *(d)* ASIC codes 16,D,E,G,H,61–62,J,8141–8306,8462–8495,L.

Payments and receipts for patent licence fees and other technical know-how

Many Australian business enterprises supplement their R&D efforts by either purchasing or licensing foreign or Australian technology. Data for 1981–82, 1984–85 and 1986–87 are presented below.

PAYMENTS AND RECEIPTS FOR TECHNICAL KNOW-HOW BY BUSINESS ENTERPRISES*(a)*, AUSTRALIA, PAYMENTS AND RECEIPTS BY INDUSTRY OF ENTERPRISES(b)
($ million)

Industry of enterprise		*Payments for technical know-how*			*Receipts for technical know-how*		
ASIC Code	*Description*	*1981–82*	*1984–85r*	*1986–87*	*1981–82*	*1984–85r*	*1986–87*
	Manufacturing—						
21	Food, beverages and tobacco	14.9	16.8	23.9	—	1.1	3.5
23–24	Textiles, clothing and footwear	1.4	8.9	n.p.	—	n.p.	n.p.
25	Wood, wood products and furniture	2.9	0.1	0.2	—	n.p.	0.6
26	Paper, paper products, printing and publishing		4.1	4.0	—	n.p.	n.p.
27	Chemical, petroleum and coal products	34.3	39.1	53.3	3.6	6.6	6.2
28	Non-metallic mineral products	5.6	7.8	1.4	—	n.p.	n.p.
29	Basic metal products	7.6	4.7	9.8	2.0	6.1	n.p.
31	Fabricated metal products	3.3	2.3	3.9	0.7	1.1	1.2
32	Transport equipment	13.8	17.4	35.5	2.0	n.p.	1.0
334	Photographic, professional and scientific equipment	16.9	n.p.	n.p.	1.3	n.p.	n.p.
335	Appliances and electrical equipment		28.3	48.5		n.p.	3.8
336	Industrial machinery and equipment	3.2	n.p.	8.3	0.2	1.4	n.p.
34	Miscellaneous manufacturing	3.3	4.9	10.9	0.9	n.p.	n.p.
C	*Total manufacturing*	*107.2*	*146.6*	*236.2*	*11.5*	*23.8*	*44.9*
	Other industries—						
F	Wholesale and retail trade	28.9	4.3	11.5	5.9	0.5	6.2
63	Property and business services		8.0	7.7		6.2	43.5
8461	Research and scientific institutions		n.p.	n.p.		n.p.	3.0
(c)	Other n.e.c.		n.p.	n.p.		n.p.	8.7
11–16, D–L	*Total other industries*	*28.9*	*19.9*	*41.2*	*5.9*	*12.3*	*61.5*
	Total all industries	**136.0**	**166.5**	**277.4**	**17.4**	**36.1**	**106.4**

(a) Excludes enterprises in ASIC Division 'A'. *(b)* 1984–85 and 1986–87 data are classified by the 1983 edition of ASIC; 1981–82 data are classified by the 1978 edition of ASIC. If the 1983 version were used to classify 1981–82 data, only minor differences would occur. *(c)* ASIC Codes 11–16,D,E,G,H,61–62,J,8141–8306,8462–8495,L.

Expenditure by Commonwealth Government organisations on science and technology

The Commonwealth Department of Industry, Technology and Commerce conducts the annual Science and Technology Statement Collection which obtains expenditure data on R&D and broader scientific and technological activities. The collection covers Commonwealth Government organisations (including public business enterprises) and includes expenditure on both intramural (in-house) R&D activity and extramural R&D funding (grants, contracts etc.).

Latest published results show total Commonwealth Government S&T expenditure in 1986–87 to be $74,899 million. Of this, total R&D expenditure was $1,178.5 million ($729.1 million intramural, $448.7 million extramural).

The table below gives an overview of 1986–87 R&D expenditure by the Commonwealth, classified by socio-economic objective.

TOTAL COMMONWEALTH GOVERNMENT EXPENDITURE (a) ON R&D BY SOCIO-ECONOMIC OBJECTIVE, 1986–87
($ million)
(*Source*: Department of Industry, Technology and Commerce)

Socio-economic objective	*R&D expenditure (b)*
National security (defence)	*153.6*
Economic development—	
Agriculture	166.6
Forestry and fisheries	28.4
Mining	25.8
Manufacturing	136.3
Construction	14.3
Energy	55.7
Transport	6.5
Communications	63.5
Economic services n.e.c.	17.8
Total economic development	*515.0*
Community welfare—	
Urban and regional planning	1.5
Environment	21.6
Health	100.3
Education	2.6
Welfare	4.8
Community services n.e.c.	57.3
Total community welfare	*188.9*
Advancement of knowledge—	
Earth, ocean and atmosphere n.e.c.	95.4
General advancement of knowledge	225.0
Total advancement of knowledge	*320.4*
Total	**1,178.5**

(*a*) Excludes expenditure by Commonwealth Government organisations funded from recoveries and external sources such as industry and State Government. Also excludes recurrent funding for Higher Education Institutions and the costs to the Commonwealth of tax incentives. (*b*) Sum of intramural plus extramural expenditures.

General government sector

The estimate of expenditure on R&D carried out in Australia by organisations in the general government sector during 1986–87 was $1,136 million at *current* prices. This represents a 19 per cent increase in expenditure compared with 1984–85. At average 1984–85 prices, R& D expenditure is estimated to have increased by 5 per cent over the same period.

RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY GENERAL GOVERNMENT ORGANISATIONS, AUSTRALIA
DETAILS OF RESOURCES DEVOTED TO R&D BY SOCIO-ECONOMIC OBJECTIVE

	Expenditure on R&D ($m)			*Person years of effort on R&D*		
Socio-economic objective	*1981–82*	*1984–85r*	*1986–87*	*1981–82*	*1984–85r*	*1986–87*
National security (Defence)	*113.2*	*151.0*	*175.1*	*3,625*	*3,232*	*3,146*
Economic development—						
Agriculture	236.0	321.0	386.8	5,681	5,850	6,467
Forestry and fisheries	44.2	48.1	63.1	1,140	924	1,049
Mining (prospecting)						
Energy sources	12.0	12.8	15.5	244	202	197
Other	9.1	23.2	28.4	236	344	392
Mining (extraction)						
Energy sources	5.0	7.9	2.8	124	120	42
Other	8.7	8.4	7.6	228	138	127
Manufacturing	73.6	103.8	119.1	1,658	1,725	1,696
Construction	7.1	13.3	14.2	207	265	261
Energy	42.7	51.8	45.7	731	644	541
Transport	6.2	16.9	16.6	134	220	281
Communications	0.6	0.3	1.3	26	6	10
Economic services n.e.c.	22.6	20.2	14.5	558	404	324
Total economic development	*467.8*	*627.5*	*715.5*	*10,966*	*10,840*	*11,387*
Community welfare—						
Urban and regional planning	2.8	0.4	1.7	81	12	40
Environment	43.6	36.0	42.6	1,034	692	639
Health	24.8	42.8	56.9	890	1,067	1,185
Education	2.7	5.9	6.7	99	145	150
Welfare	1.7	3.7	7.1	64	86	118
Community services n.e.c.	3.6	9.1	19.1	85	175	227
Total community welfare	*79.2*	*97.9*	*134.2*	*2,253*	*2,177*	*2,358*
Advancement of knowledge—						
Earth, ocean and atmosphere n.e.c.	34.3	72.7	102.5	542	778	914
General advancement of knowledge	20.1	6.2	8.4	408	109	176
Total advancement of knowledge	*54.4*	*78.9*	*110.9*	*950*	*887*	*1,090*
Total	**714.6**	**955.3**	**1,135.7**	**17,795**	**17,136**	**17,981**

Higher education sector

The estimate of expenditure on R&D carried out in Australia by higher education organisations during 1986 is $882 million at *current* prices. This represents a 29 per cent increase in expenditure compared with 1984. At average 1984–85 prices, R&D expenditure is estimated to have increased by 11 per cent over the same period.

RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY HIGHER EDUCATION ORGANISATIONS, AUSTRALIA
R&D EXPENDITURE BY SOCIO-ECONOMIC OBJECTIVE

	Expenditure on R&D ($m)						
		1984r			*1986*		
Socio-economic objective	*1981*	*Total*	*Universities*	*CAEs*	*Total*	*Universities*	*CAEs*
National security (Defence)	*0.7*	*1.2*	*1.2*	—	*1.9*	*1.7*	*0.2*
Economic development—							
Agriculture	35.5	58.9	57.3	1.5	74.2	72.2	2.0
Forestry and fisheries	4.3	8.2	8.0	0.2	9.0	8.6	0.4
Mining (prospecting)							
Energy sources	1.8	1.8	1.7	0.1	4.0	3.7	0.3
Other	1.8	3.4	3.2	0.1	7.2	7.0	0.2
Mining (extraction)							
Energy sources	1.0	1.0	1.0	0.1	0.8	0.8	—
Other	2.4	3.6	3.3	0.3	6.9	5.8	1.1
Manufacturing	13.0	18.6	16.1	2.4	29.5	24.9	4.6
Construction	2.7	7.2	6.9	0.3	8.9	8.0	0.8
Energy	21.7	25.4	23.7	1.7	27.6	25.6	1.9
Transport	2.6	3.7	3.2	0.5	4.2	3.6	0.6
Communications	3.2	6.0	5.5	0.4	9.4	8.4	1.0
Economic services n.e.c.	21.0	18.6	17.5	1.1	34.0	31.2	2.7
Total economic development	*110.9*	*156.4*	*147.6*	*8.8*	*215.7*	*200.0*	*15.7*
Community welfare—							
Urban and regional planning	4.0	4.3	4.1	0.2	6.0	5.6	0.3
Environment	5.7	12.6	11.5	1.0	17.2	15.6	1.6
Health	87.3	139.8	134.8	5.0	186.4	179.4	7.0
Education	18.1	26.6	23.6	3.0	35.5	31.6	4.0
Welfare	5.7	8.3	8.0	0.3	10.0	9.1	0.9
Community services n.e.c.	11.3	13.3	12.5	0.8	19.2	17.6	1.6
Total community welfare	*132.1*	*204.8*	*194.5*	*10.4*	*274.3*	*258.9*	*15.4*
Advancement of knowledge—							
Earth, ocean and atmosphere n.e.c.	26.3	42.3	41.8	0.6	49.2	48.6	0.6
General advancement of knowledge	182.4	281.0	278.1	2.9	340.8	336.0	4.8
Total advancement of knowledge	*208.7*	*323.3*	*319.9*	*3.5*	*390.0*	*384.6*	*5.4*
Total	**452.5**	**685.7**	**663.1**	**22.7**	**881.9**	**845.2**	**36.6**

RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY HIGHER EDUCATION ORGANISATIONS, AUSTRALIA
HUMAN RESOURCES DEVOTED TO R&D BY SOCIO-ECONOMIC OBJECTIVE

	Person years of effort on R&D						
		1984r			*1986*		
Socio-economic objective	*1981*	*Total*	*Universities*	*CAEs*	*Total*	*Universities*	*CAEs*
National security (Defence)	*19*	*29*	*28*	*1*	*52*	*39*	*12*
Economic development—							
Agriculture	1,554	1,922	1,863	59	2,031	1,969	62
Forestry and fisheries	167	282	265	17	256	237	19
Mining (prospecting)							
Energy sources	64	71	56	15	110	93	17
Other	67	108	96	12	206	194	12
Mining (extraction)							
Energy sources	44	34	33	1	23	21	2
Other	104	128	110	18	202	165	37
Manufacturing	583	625	522	103	922	710	212
Construction	107	225	210	15	240	214	26
Energy	764	769	706	64	729	653	76
Transport	98	129	108	22	118	89	29
Communications	143	196	175	21	306	249	58
Economic services n.e.c.	677	443	399	45	736	630	106
Total economic development	*4,372*	*4,933*	*4,542*	*391*	*5,879*	*5,222*	*657*
Community welfare—							
Urban and regional planning	161	116	107	9	149	134	16
Environment	256	422	377	45	490	424	66
Health	3,345	4,140	3,902	238	4,778	4,492	285
Education	923	891	767	124	947	805	141
Welfare	202	245	232	13	269	229	41
Community servies n.e.c.	427	337	304	33	472	398	75
Total community welfare	*5,314*	*6,151*	*5,688*	*462*	*7,106*	*6,482*	*624*
Advancement of knowledge—							
Earth, ocean and atmosphere n.e.c.	1,019	1,135	1,097	38	1,163	1,136	26
General advancement of knowledge	7,516	8,597	8,458	139	9,043	8,834	209
Total advancement of knowledge	*8,535*	*9,732*	*9,556*	*176*	*10,205*	*9,970*	235
Total	**18,241**	**20,844**	**19,814**	**1,030**	**23,242**	**21,713**	**1,529**

Private non-profit sector

The estimate of expenditure on R&D carried out by private non-profit organisations during 1986–87 was $49.1 million at *current* prices. This represents a 13 per cent increase in expenditure compared with 1984–85. At average 1984–85 prices, R&D expenditure is estimated to have increased by 2 per cent over the same period.

RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY PRIVATE NON-PROFIT ORGANISATIONS, AUSTRALIA DETAILS OF RESOURCES DEVOTED TO R&D BY SOCIO-ECONOMIC OBJECTIVE

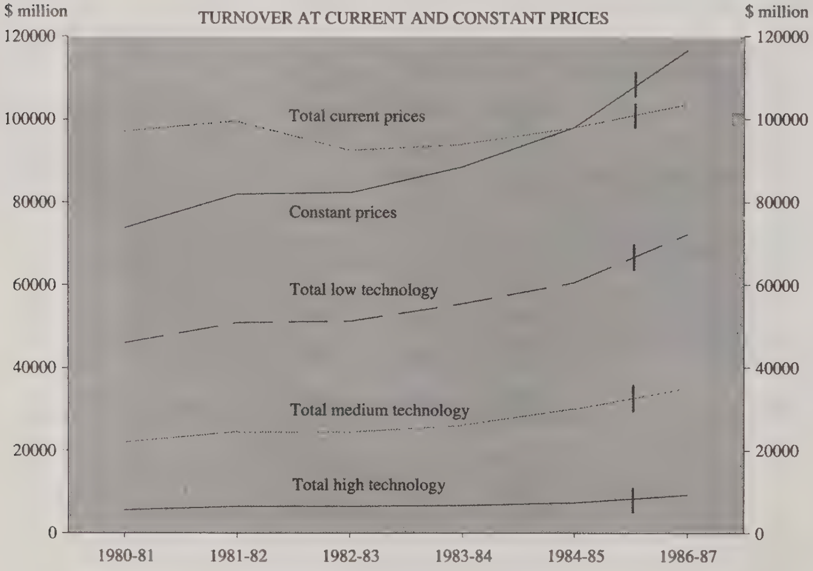
	Expenditure ($'000)			*Person years of effort on R&D*		
Socio-economic objective	*1981–82*	*1984–85r*	*1986–87*	*1981–82*	*1984–85r*	*1986–87*
National security (Defence)	—	—	—	—	—	—
Economic development—						
Agriculture	36	55	69	3	2	3
Forestry and fisheries	—	—	35	—	—	1
Mining (prospecting)						
Energy sources	—	—	—	—	—	—
Other	—	n.p.	—	—	n.p.	—
Mining (extraction)						
Energy sources	—	—	—	—	—	—
Other	—	—	—	—	—	—
Manufacturing	—	—	267	—	—	3
Construction	—	n.p.	—	—	n.p.	—
Energy	3	535	303	1	8	4
Transport	196	n.p.	52	12	n.p.	1
Communications	—	3	—	—	1	—
Economic services n.e.c.	512	780	1,363	18	18	28
Total economic development	*747*	*2,116*	*2,089*	*34*	*41*	*40*
Community welfare—						
Urban and regional planning	—	397	358	—	6	4
Environment	—	4	564	—	—	16
Health	17,758	38,801	43,496	563	615	818
Education	1,739	1,228	1,200	63	24	20
Welfare	420	558	882	22	16	23
Community services n.e.c.	35	88	10	1	2	—
Total community welfare	*19,952*	*41,075*	*46,511*	*649*	*662*	*881*
Advancement of knowledge—						
Earth, ocean and atmosphere n.e.c.	—	45	48	—	1	2
General advancement of knowledge	210	251	459	6	8	8
Total advancement of knowledge	*210*	*296*	*507*	*6*	*9*	*10*
Total	**20,909**	**43,488**	**49,107**	**688**	**712**	**931**

Statistics on manufacturing industry technology

The level of technological development in manufacturing industry can be viewed by classifying industries to high, medium and low technology according to the intensity of their R&D effort. Using the OECD classification by this method, high technology industries are defined as those manufacturing establishments classified to aircraft (Australian Standard Industrial Classification (ASIC) Class 3244). Communications and other electronic equipment (ASIC Classes 3351 and 3352); electrical appliances and machinery (ASIC Classes 3353–3357); pharmaceutical and veterinary products (ASIC Class 2763); and photographic, professional and scientific equipment (ASIC Group 334). Medium technology covers chemicals (apart from ASIC Class 2763); petroleum and coal products; non-ferrous metals and basic products; motor vehicles and parts, railway equipment and other transport equipment (ASIC Class 3245); industrial machinery; rubber and plastic products; and, other manufacturing (ASIC Group 348). Low technology covers food, beverages and tobacco; textiles, clothing and footwear; wood and wood products; paper and paper products, etc.; petroleum refining; non-metallic mineral products, basic iron and steel products; fabricated metal products; ships and boats; and, leather products.

The figure below shows that high technology industries as a group showed current price growth in turnover in the six year period from 1980–81 to 1986–87 (65 per cent). Low and medium technology groups have performed comparably with growths of 57 per cent and 60 per cent respectively. In constant prices terms, total manufacturing industry turnover has shown little growth (1 per cent over the period).

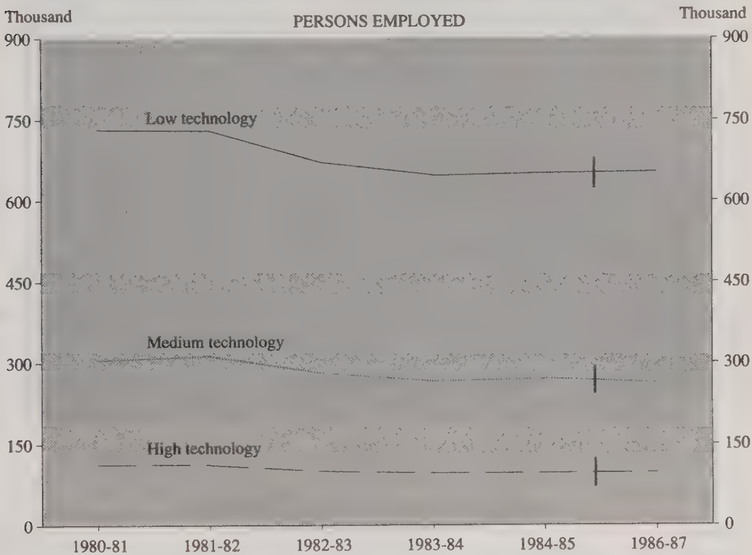
MANUFACTURING ESTABLISHMENTS, AUSTRALIA
TURNOVER AT CURRENT AND CONSTANT PRICES



| Indicates break in series. No census conducted in 1985-86.

The following figure shows a downturn in manufacturing industry employment levels (net drops of 13 per cent, 14 per cent and 11 per cent for high, medium and low technology industries respectively). Data for the latest year available show modest rises between 1984–85 and 1986–87 for high and low technology industries (1.2 per cent and 0.5 per cent respectively) while medium technology industries recorded a drop of less than 1 per cent.

MANUFACTURING ESTABLISHMENTS, AUSTRALIA



| Indicates break in series. No census conducted in 1985-86.

Trade statistics

Another way of viewing Australian manufacturing industry's level of technological development is to look at trade of high technology products. Products are classified initially according to commodity (Australian Import and Export Commodity Codes) but converted to an ASIC basis. Definitions of high, medium and low technology groups according to ASIC are the same as above.

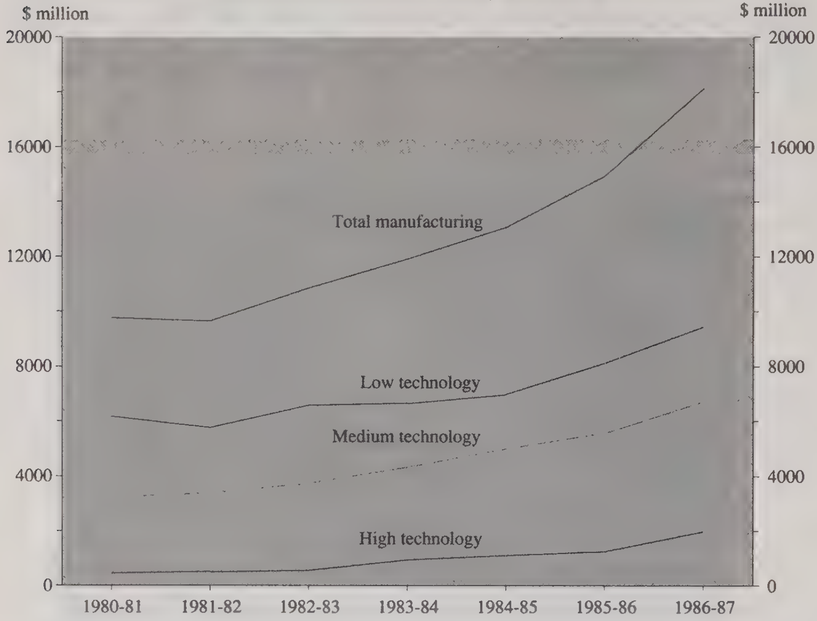
The current price value of imports of Australian manufactures is increasing for all groups but most of all for high technology products (19 per cent increase between 1985–86 and 1986–87 compared to 8 per cent and 4 per cent for low and medium technology products respectively).

Current price export growth over the four year period 1983–84 to 1986–87 is also highest for the high technology group (110 per cent compared with 56 per cent for medium and 42 per cent for low technology).

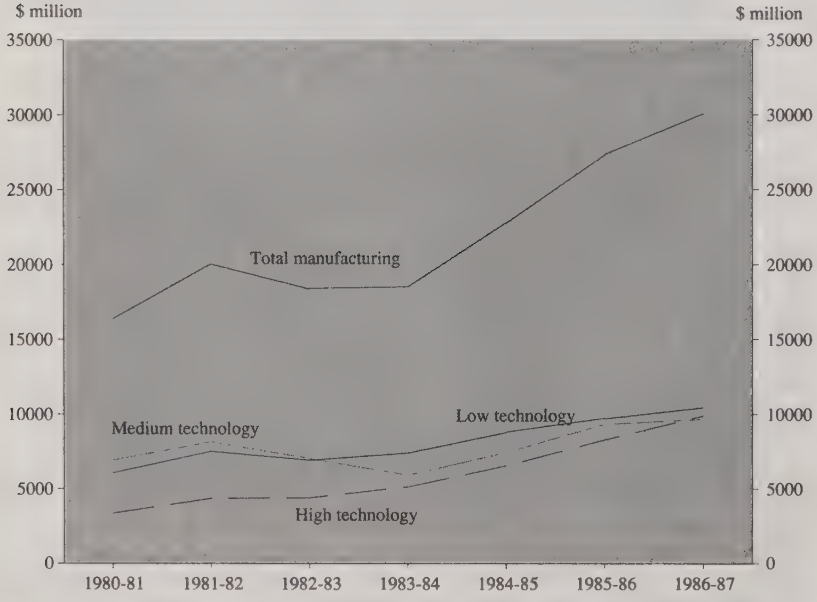
The current price value of total exports of manufactured goods has increased more than imports over the period 1985–86 to 1986–87 (21 per cent compared to a 10 per cent increase for the total current price value of imports). The highest increase was for high technology products (59 per cent compared with 21 per cent and 16 per cent for medium and low technology products respectively).

Over the four year period 1983–84 to 1986–87 the value of imports of high technology goods has increased the most (92 per cent compared to 63 per cent and 41 per cent for medium and low technology goods respectively).

EXPORTS OF MANUFACTURES, AUSTRALIA



IMPORTS OF MANUFACTURES, AUSTRALIA



Other Activities

For information on other activities related to science and technology, *see Year Book* No. 70. That edition contains information on scientific and technological information services (page 640), social science and humanities research (page 652) and international activities (page 653).

Additional Information

Additional information on topics presented in this chapter may be found in the annual reports of the organisations mentioned, particularly the Department of Industry, Technology and Commerce, the CSIRO, the Australian Nuclear Science and Technology Organisation, the Department of Defence, and in the annual *Science and Technology Statements*. Statistical information on R&D for the years 1968–69, 1973–74 and 1976–77 may be found in the reports on Project SCORE published by the (then) Department of Science. Statistical information on R&D relating to 1978–79, 1981–82, 1984–85, 1985–86 and 1986–87 may be obtained from the Australian Bureau of Statistics (ABS). Further statistical information on higher education is obtainable from the Commonwealth Tertiary Education Commission. Trade and industry operations data are available from the ABS.

The Department of Industry, Technology and Commerce's *Australian Science and Technology Indicators Report*, published in 1988, uses S&T indicators to give a good overview and analysis of science and technology information in Australia. It presents information on R&D effort and expenditure, science and technology workforce, S&T information resources, scientific equipment and facilities, literature-based S&T measures, patent activity, technology training, financial support for technological development, industry operations and trade by level of technology, and transfer of technical knowledge.

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23

PRIVATE FINANCE

This chapter contains statistics on the activities and structure of financial institutions including banks, building societies, insurance companies, finance companies, credit unions and cooperative societies together with descriptions of their operations and relevant controlling legislation.

MONEY

Currency

Australia has a decimal system of currency, the unit being the dollar which is divided into 100 cents. Australian notes are issued in the denominations of $5, $10, $20, $50 and $100 and coins in the denominations of 1c, 2c, 5c, 10c, 50c, $1 and $2. The $1 and $2 notes were replaced by coins in 1984 and 1988 respectively.

AUSTRALIAN NOTES ON ISSUE
($ million)

	Last Wednesday in June—					
	1982	*1983*	*1984*	*1985*	*1986*	*1987*
$1	78.8	81.4	58.2	45.1	43.7	41.6
$2	158.4	162.9	168.6	179.1	179.9	178.7
$5	165.6	174.1	183.1	192.1	202.2	213.0
$10	546.7	531.5	512.9	518.1	524.8	527.6
$20	2,169.8	2,195.8	2,235.6	2,284.9	2,285.2	2,315.7
$50	2,718.2	3,216.4	3,450.4	3,420.5	3,461.7	3,586.2
$100	—	—	595.6	1,542.4	2,238.6	2,974.8
Total	**5,837.5**	**6,362.2**	**7,204.5**	**8,182.1**	**8,936.1**	**9,837.6**
Held by banks	*677.4*	*712.6*	*786.7*	*833.3*	*894.3*	*937.4*
Held by public	*5,160.1*	*5,649.6*	*6,417.8*	*7,348.8*	*8,041.9*	*8,900.2*

AUSTRALIAN DECIMAL COIN: NET ISSUES BY RESERVE BANK
($ million)

	Year ended June					
	1982	*1983*	*1984*	*1985*	*1986*	*1987*
1c	1.4	1.2	1.0	1.1	1.3	1.3
2c	2.7	1.7	1.4	1.5	1.3	1.9
5c	5.0	3.4	3.5	2.7	3.8	4.6
10c	6.2	4.3	5.2	—	3.4	4.8
20c	12.8	9.0	6.9	–9.6	3.0	2.7
50c	26.8	22.1	9.4	1.2	–0.5	3.2
$1	—	—	107.2	86.6	25.5	16.3
Total	**54.9**	**41.7**	**134.6**	**83.5**	**37.8**	**34.7**

For additional information on note issues and coinage, refer to the List of Special Articles towards the back of this Year Book.

Volume of money

Statistics of the volume of money in the following table include notes and coins in the hands of the public, deposits of the public with trading banks (including the Reserve Bank) and deposits with all savings banks. Volume of money is a measure of specified financial assets held by the non-bank public.

The financial assets included in the volume of money in the table represent only part (albeit a major part) of the public's total holdings of liquid financial assets. An expanded view of the volume of money would include the public's holdings of such other claims as finance company debentures, deposits and shares of building societies, loans to authorised dealers in the short-term money market, government securities, etc.

VOLUME OF MONEY
($ million)
(*Source*: **Reserve Bank of Australia**)

Average of weekly figures for June	*Notes and coins in the hands of public*	*Deposits of public with all trading banks*		*Certificates of deposits (b)*	*Deposits with all savings banks (c)*	*Total volume of money*
		Current(a)	*Fixed(a)*			
1982	5,570	11,325	16,948	3,002	24,808	61,653
1983	6,078	11,803	18,676	3,248	29,568	69,373
1984	6,983	12,663	19,393	3,850	34,051	76,940
1985	8,009	14,451	24,795	5,615	37,519	90,389
1986	8,717	14,637	32,427	4,715	41,625	102,122
1987	9,598	17,046	34,493	2,544	51,567	115,248

(*a*) Excludes deposits of the Commonwealth and State Governments and inter-bank deposits. (*b*) Excludes holdings of the Commonwealth and State Governments and banks. (*c*) Interpolated 'weekly average' based on end-of-month figures.

FINANCIAL LEGISLATION

Commonwealth legislation for economic management

With Federation in 1901 the new Commonwealth Parliament was given power under Section 51 of the Commonwealth Constitution to legislate with respect to 'Banking, other than State Banking, also State Banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money'. In 1911 the Commonwealth entered the field of banking with the establishment of the Commonwealth Bank of Australia, which conducted both trading bank and savings bank operations.

From 1911 to 1945 the functions of central banking became more and more the responsibility of the Commonwealth Bank, and in 1945 the Commonwealth Parliament directed it to act as a central bank. In the ensuing period of economic growth and financial development, the need for effective regulatory control of finance through banks became increasingly recognised. During 1959 the Commonwealth Parliament enacted the following legislation:

(a) The *Banking Act 1959* which applies to all banks operating in Australia, including the external territories of the Commonwealth, except State banks trading in their own State. The objects of the Act are:

  (i) to provide a legal framework uniform throughout Australia for regulating the banking system;

   - (ii) to safeguard depositors of the banks from loss;
   - (iii) to provide for the coordination of banking policy under the direction of the Reserve Bank;
   - (iv) to control the volume of credit in circulation and bank interest rates; and
   - (v) to provide machinery for the control of foreign exchange.

(b) The *Reserve Bank Act 1959* which provides for the constitution and management of the Reserve Bank of Australia, the administration of the *Banking Act 1959* and the management of the Australian note issue.

(c) The *Commonwealth Banks Act 1959* which provides for the constitution and management of the Commonwealth Banking Corporation, Commonwealth Bank of Australia, Commonwealth Savings Bank of Australia, and the Commonwealth Development Bank of Australia.

Notwithstanding the provisions of the above legislation, recent Australian governments have sought to decrease the degree of regulation imposed on the Financial Sector, and on banking activity in particular. Specifically, controls on most bank interest rates and foreign exchange have been relaxed. In addition, eighteen new private banks have been granted licences to commence operations.

Information on more specific aspects of the growth and control of the banking industry is contained in earlier issues of the *Year Book* (Nos 31, 37, 45, 46 and 61).

As a result of the further development of the financial market and the increasing significance in the market of the non-bank financial institutions such as finance companies, building societies and money market dealers, the *Financial Corporations Act 1974* was introduced. The object of this Act is to assist the government to achieve effective management of the Australian economy by providing a means for the examination and regulation of the activities of non-bank financial institutions having regard to economic stability, the maintenance of full employment, the efficient allocation of productive resources, the ensuring of adequate levels of finance for housing and the economic prosperity and welfare of the people of Australia. Details of the operation and application of the Act are given in *Year Book* No. 62, page 541.

Other Commonwealth legislation directly affecting financial institutions

Insurance

Section 51 of the Commonwealth Constitution confers the necessary powers on the Commonwealth Parliament to legislate with respect to 'insurance, other than State insurance; also State insurance extending beyond the limits of the State concerned'. Commonwealth legislation includes the *Marine Insurance Act 1909* defining the limits of marine insurance and regulating the terms of contracts, etc.; the *Life Insurance Act 1945* generally regulating life insurance business in Australia; the *Insurance Act 1973* generally regulating general (non-life) insurance business in Australia and the *Insurance (Agents and Brokers) Act 1984*. The *Marine Insurance Act 1909* has limited application.

Life Insurance Act 1945

The objects of this Act are:

(a) to replace all State legislation on the subject of life insurance except that relating to the life insurance operations of State government insurance offices within the State concerned, and to provide uniform legislation for the whole of Australia;

(b) to appoint a Life Insurance Commissioner to exercise active supervision of the activities of life insurance companies, with a view to securing the greatest possible protection for policy holders; and

(c) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act came into operation on 20 June 1946. The Life Insurance Commissioner issues an annual report which contains detailed information on the operations of life insurance companies.

Insurance Act 1973
The objects of this Act are:

(a) to appoint an Insurance Commissioner to exercise active supervision of the financial activities of companies conducting general (non-life) insurance business, apart from State government insurance whether or not extending beyond the limits of the State concerned and other organisations specified in the Act, with a view to securing the greatest possible protection for policy holders; and

(b) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act came into operation on 19 June 1973. The Insurance Commissioner issues an annual report which contains detailed information on the operations of insurance companies.

Insurance (Agents and Brokers) Act 1984
The prime objective of the Act is to regulate the activities of insurance agents and brokers with a view to strengthening the financial stability of the industry overall. The Act received Royal Assent on 25 June 1984 although most of its regulatory provisions did not become operative until 1 January 1986.

State legislation

In each State there exists legislation designed to regulate the activities and monitor the solvency position of particular types of financial institutions which operate on a cooperative basis and lend predominantly to members or consumers. In general, they form the groups covered later in this chapter under the headings of Permanent Building Societies, Cooperative Housing Societies and Credit Cooperatives

In some States there is also legislation for the incorporation of State government bodies which operate as banks or insurance offices. Though the regulations in Commonwealth legislation do not directly apply to these bodies, details of their operations have been included in the relevant parts of this chapter because they have agreed to supply information consistent with regulatory reports on a voluntary basis.

BANKS

Reserve Bank of Australia

The Reserve Bank of Australia preserved and continued in existence the original corporate body known as the Commonwealth Bank of Australia under the new name Reserve Bank of Australia.

The general functions of the Reserve Bank are set out in Section 10 of the *Reserve Bank Act 1959*, which states:

> 'It is the duty of the Board, within the limits of its powers, to ensure that the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia and that the powers of the Bank under this Act, the *Banking Act 1959*, and regulations under that Act are exercised in such a manner as, in the opinion of the Board, will best contribute to:
>
> (a) the stability of the currency of Australia;
>
> (b) the maintenance of full employment in Australia; and
>
> (c) the economic prosperity and welfare of the people of Australia.'

Management

The policy of the Reserve Bank is determined by a Board consisting of the Governor (Chairman), the Deputy Governor, the Secretary to the Treasury, and seven other members appointed by the Governor-General. The Bank is managed by the Governor, who acts in accordance with the policy of the Board and with any directions of the Board. The Bank is required to inform the government of the monetary and banking policy of the Board. In the event of a disagreement between the government and the Board as to whether the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia, the Governor-General, acting with the advice of the Executive Council, may determine the policy to be adopted by the Bank.

Central Banking business

Under the *Commonwealth Bank Act 1911* and the war-time powers conferred by the National Security Regulations, the Commonwealth Bank gradually assumed the functions of a Central Bank. Part III of the *Commonwealth Bank Act 1945* formally constituted the bank as a Central Bank and granted the necessary powers to carry on the business of a Central Bank, these powers being carried through into the present Act constituting the Reserve Bank.

Note Issue Department

The Note Issue Department, established in 1920 when the control of the Australian note issue was transferred from the Commonwealth Treasury to the Commonwealth Bank, was maintained in the same form under the *Reserve Bank Act 1959*. The Reserve Bank may, through this Department, issue, re-issue and cancel Australian notes.

Rural Credits Department

The Rural Credits Department, established in 1925 for the purpose of making short-term credit available for the orderly marketing of primary produce, was continued in the same form under the *Reserve Bank Act 1959*. The Reserve Bank may, through this Department, make advances upon the security of primary produce placed under the legal control of the Bank, or other security associated with the production or marketing of primary produce, to cooperative associations or marketing boards formed under the laws of the Commonwealth of a State or Territory of the Commonwealth or other bodies specified by proclamation. The period of the advance is not to exceed one year.

RESERVE BANK OF AUSTRALIA: LIABILITIES AND ASSETS
($ million)

LIABILITIES

30 June—	Capital and reserve funds	Special reserve—IMF special drawing right	Australian notes on issue	Deposits of trading banks: Statutory reserve deposit accounts	Deposits of trading banks: Other	Deposits of savings banks	All other liabilities	Total
1982	2,553	352	5,838	2,118	23	195	1,667	12,747
1983	4,392	352	6,414	2,237	6	2	2,121	15,523
1984	4,266	305	7,237	2,409	13	1	2,658	16,888
1985	6,177	344	8,234	2,864	16	1	4,047	21,683
1986	6,602	371	8,915	3,289	22	2	4,841	24,042
1987	5,882	359	9,742	3,453	19	6	6,613	26,073

ASSETS

30 June—	Gold and foreign exchange (a)	Australian Government securities (b)	Loans, advances and bills discounted	Bank premises (c)	All other assets	Total
1982	6,519	4,771	573	160	724	12,747
1983	10,752	3,472	418	165	717	15,523
1984	12,261	2,872	749	170	837	16,888
1985	13,245	6,487	381	342	1,229	21,683
1986	12,698	9,539	142	374	1,289	24,042
1987	17,259	7,197	131	370	1,117	26,073

(a) Includes currency at short call and International Monetary Fund drawing rights (b) Includes Treasury bills and Treasury notes. (c) At cost, less amounts written off.

Trading Banks

Commercial banking in Australia is conducted by twenty-nine trading banks. Three large private trading banks, together with the Commonwealth Bank of Australia, are generally referred to as the major trading banks. These banks provide widespread banking facilities throughout Australia. The remaining twenty-five banks comprise four overseas banks, three State-owned banks and eighteen private banks.

The major trading banks are: Commonwealth Bank of Australia; Australia and New Zealand Banking Group; Westpac Banking Corporation; and the National Australia Bank Limited.

Liabilities and assets

Balance sheet information contained in the following table does not relate to uniform accounting periods but rather to the balance dates of banks within the years shown.

AUSTRALIAN TRADING BANKS(a): LIABILITIES AND ASSETS (b)
($ million)

LIABILITIES

	Paid-up capital	*Reserve funds (used in business of banks) (c)*	*Final dividend proposed*	*Balance of profit and loss account*	*Total share-holders' funds*	*Balances due to other banks*	*Deposits, bills payable and other liabilities*	*Total*
1982	1,057	1,673	108	368	3,206	6,613	51,444	61,263
1983	1,060	1,926	117	297	3,401	7,632	56,715	67,747
1984	1,259	2,309	143	431	4,143	12,152	62,219	78,514
1985	1,928	3,889	173	668	6,658	14,901	79,542	101,102
1986	3,276	4,986	200	1,039	9,502	23,326	108,746	141,574
1987	4,081	5,788	322	1,206	11,296	24,405	127,280	162,981

ASSETS

			Australian public securities					
			Australian Government					
	Coin, bullion, notes and cash at Reserve Bank	*Money short call overseas*	*Treasury bills and notes*	*Other securities*	*Local and semi-government securities*	*Other public securities*	*Other securities*	*Loans to authorised dealers in short-term money market*
1982	579	399	754	5,023	57	95	2,431	38
1983	441	465	393	5,066	46	318	2,416	78
1984	482	532	426	5,745	36	332	3,069	175
1985	722	740	802	6,404	29	139	5,428	459
1986	1,111	994	1,597	6,639	90	992	7,525	1,446
1987	934	780	3,243	6,990	227	1,198	7,904	500

	Statutory reserve deposit account with Reserve Bank	*Cheques and bills of, and balances with and due from other banks*	*Loans, advances and bills discounted*	*Bank premises, furniture and sites*	*Bills receivable and remittances in transit*	*All other assets*	*Total*
1982	2,096	4,523	32,342	689	2,181	10,056	61,263
1983	2,212	5,295	35,257	843	2,056	12,861	67,747
1984	2,482	8,017	39,041	1,033	1,152	15,994	78,514
1985	2,970	9,415	52,514	1,327	1,771	18,382	101,102
1986	3,262	16,159	70,618	1,564	3,428	26,147	141,574
1987	3,396	16,194	79,150	1,786	5,810	34,868	162,981

(a) Excludes the overseas banks and the State banks. *(b)* Relates to liabilities and assets both inside and outside Australia. *(c)* Includes inner reserves.

Figures shown in the following table are the averages of liabilities and assets within Australia (including external territories) of banks at the close of business on Wednesdays during the month of June for the years shown.

ALL TRADING BANKS: AVERAGE LIABILITIES AND ASSETS WITHIN AUSTRALIA
($ million)

LIABILITIES(a)(b)

Average of weekly figures for month of June	Deposits repayable in Australia						
	Fixed	Current: Bearing interest	Current: Not bearing interest	Total	Balances due to other banks	Bills payable and all other liabilities to the public	Total
1983	23,644	1,702	10,698	36,044	1,350	14,871	52,266
1984	24,925	2,135	11,364	38,424	1,997	19,100	59,521
1985	31,443	4,265	11,570	47,279	1,884	21,386	70,548
1986	38,650	3,648	12,038	54,336	4,070	34,863	93,270
1987	38,041	5,205	13,533	56,779	4,850	50,744	112,374
1988	38,915	6,546	16,126	61,587	5,654	68,276	135,517

ASSETS(b)

Average of weekly figures for month of June	Coin, bullion, notes and cash at Reserve Bank	Australian Government securities		Local and semi-government securities	Loans to authorised dealers in short-term money market	Statutory reserve deposit account with Reserve Bank	Loans, advances and bills discounted	All other assets	Total
		Treasury bills and notes	Other securities						
1983	620	538	5,395	123	193	2,238	28,687	16,858	54,653
1984	678	358	6,041	96	320	2,409	31,751	20,974	62,627
1985	748	1,118	6,535	457	311	2,861	39,272	25,374	76,677
1986	877	1,798	7,175	641	906	3,301	53,053	35,579	103,329
1987	868	3,512	7,324	542	760	3,455	60,937	45,624	123,023
1988	839	5,002	8,406	457	1,031	3,557	69,631	65,469	154,391

(a) Excludes shareholders' funds. (b) Excludes inter-branch accounts and contingencies.

Branches and agencies

At 30 June 1988 the major trading banks operated 4,588 branches, and the other trading banks, 785 branches. Of the total 5,373 branches, 2,850 were located in metropolitan areas. Trading bank facilities were also available at 1,213 agencies throughout Australia.

Debits to customers' accounts

TRADING BANKS: AVERAGE WEEKLY DEBITS TO CUSTOMERS' ACCOUNTS (a)
($ million)

June	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
1983	17,788	13,679	3,926	1,727	2,592	332	95	834	40,975
1984	26,971	19,075	5,389	2,124	3,449	402	167	1,223	58,800
1985	42,968	23,959	6,483	2,699	4,720	545	197	1,482	83,053
1986	58,972	26,514	6,765	3,194	5,289	502	220	1,894	103,352
1987	84,752	30,715	7,548	3,414	5,629	866	342	1,258	134,524
1988	135,387	40,564	11,682	4,222	5,865	731	365	1,595	200,410

(a) Covers all trading banks and in addition the Rural Credits Department of the Reserve Bank and the Commonwealth Development Bank. Excludes debits to the Commonwealth and State Government accounts in capital cities.

INTEREST RATES AT 30 JUNE 1987

	Per cent per annum
Fixed deposits (Less than $50,000)	
30 days	10.00
3 months	11.00
6 months	11.50
12 months	11.75
24 months	11.75
48 months	11.75
Overdrafts	
Less than $100,000	15.00/18.50
$100,000 and over	15.00

More detailed statistics relating to trading banks may be found in the monthly publication *Major Trading Banks Australia* (5603.0), and the quarterly publication *Banking, Australia* (5605.0).

Savings Banks

Savings bank business in Australia is conducted by sixteen banks. These comprise subsidiaries of the four major trading banks, four State-owned banks, six private banks, one trustee bank and one overseas bank.

All savings banks, including the trustee savings bank but not State savings banks, are subject to the *Banking Act 1959*.

Liabilities and assets

Balance sheet information contained in the following table does not relate to uniform accounting periods but rather to the balance dates of banks falling within the years shown.

SAVINGS BANKS(a): LIABILITIES AND ASSETS(b)
($ million)

LIABILITIES

	Paid-up capital	*Reserve Funds (used In the business of the bank) (c)*	*Final dividend proposed*	*Balance of profit and loss account*	*Total share-holders' funds*	*Deposi-tors' balances*	*Balances due to other banks*	*Bills payable and all other liabilities*	*Total*
1982	91	674	—	66	831	18,760	89	646	20,325
1983	141	658	—	49	847	23,680	73	752	25,352
1984	130	1,050	—	96	1,275	26,687	266	874	29,102
1985	564	642	—	146	1,351	28,856	246	1,048	31,500
1986	678	698	3	183	1,562	33,214	250	1,475	36,501
1987	867	977	41	302	2,187	41,842	245	2,180	46,454

For footnotes see end of table.

SAVINGS BANKS(a): LIABILITIES AND ASSETS(b)—*continued*
($ million)

ASSETS

			Australian public securities			
			Commonwealth/ State Governments			
	Coin, bullion notes and deposits with Reserve Bank	*Deposits in Australia with trading banks*	*Treasury bills and notes*	*Other securities*	*Local and semi-government securities*	*Other securities*
1982	154	184	1,368	1,530	4,733	105
1983	137	311	875	3,453	5,573	145
1984	68	209	82	4,551	6,444	146
1985	85	312	209	4,162	6,228	238
1986	104	506	758	4,342	5,008	442
1987	119	145	2,385	3,441	4,710	968

	Loans to authorised dealers in short-term money market	*Cheques and bills of, and balances with and due from other banks (c)*	*Loans advances and bills discounted*	*Bank premises, furniture and sites*	*Bills receivable and re-mittances in transit*	*All other assets*	*Total*
1982	60	254	11,425	252	2	259	20,325
1983	277	263	13,722	273	3	320	25,352
1984	177	264	16,072	623	102	363	29,102
1985	310	585	18,295	659	12	405	31,500
1986	104	177	23,670	794	49	548	36,501
1987	79	282	32,192	1,123	361	650	46,454

(a) Excludes the State banks. *(b)* Relates to liabilities and assets both inside and outside Australia. *(c)* Includes deposits with and loans to specified lenders other than trading banks.

Branches and agencies

At 30 June 1988 the savings banks operated 6,005 branches and 8,028 agencies of which 3,331 branches and 3,567 agencies were in metropolitan areas.

More detailed statistics relating to savings banks may be found in the monthly publication *Savings Banks, Australia* (5602.0), and the quarterly publication *Banking, Australia* (5605.0)

Development Banks

Commonwealth Development Bank of Australia

The Commonwealth Development Bank of Australia was established by the *Commonwealth Banks Act 1959* and commenced operations on 14 January 1960. It was formed basically from an amalgamation of the Mortgage Bank and Industrial Finance Departments of the former Commonwealth Bank of Australia. The functions of the Development Bank are to provide finance for the purpose of primary production (which includes fishing, forestry and all forms of rural activity) and for the establishment or development of small business undertakings (i.e. with shareholders'/proprietors' funds not exceeding $5 million) in cases where such finance is not otherwise available on reasonable and suitable terms and conditions.

Two types of facility are provided—loans over medium to long terms and equipment finance over short terms. Loans to primary industry may be for all types of farm development, property purchase and restructuring of private mortgage debt. Loans to small businesses may be for establishment of new enterprises or for development of existing businesses in all sectors including manufacturing, retail and wholesale trade, transport, tourism, professions, entertainment and service industries. Equipment finance is provided for the acquisition of plant and vehicles for both primary industry and business undertakings. The Bank has widened its policy to lend for working capital and to re-finance loans from non-bank sources.

The Commonwealth Development Bank is managed by a General Manager under the Managing Director of the Commonwealth Banking Corporation and its policy is determined by the Board of that Corporation.

Australian Resources Development Bank Limited

The Australian Resources Development Bank Limited was established in 1967 with equity capital of $3 million subscribed by the major trading banks. It was given the status of a bank under the *Banking Act 1959* and opened for business on 29 March 1968. The main object of the Australian Resources Development Bank is to assist Australian enterprises to participate more fully in the development of Australia's natural resources. It provides finance to enterprises engaged in major developmental projects by direct loans, investing in equity capital or by refinancing loans made by trading banks acting individually or as a group. The Australian Resources Development Bank obtains funds by accepting deposits and by borrowing on the Australian and overseas capital markets.

REGISTERED BUILDING SOCIETIES

Permanent Building Societies

A permanent building society is defined as an organisation that:

- is registered under relevant State or Territory legislation;
- has not by its rules any fixed date or certain event or result when it is to terminate;
- is authorised to accept money on deposit;
- operates on a cooperative basis by borrowing predominantly from its members and providing finance to its members principally in the form of housing loans.

In 1976 a statistical collection was introduced covering the financial accounts of permanent building societies in all States and Territories of Australia. The statistics below summarise information collected from the 62 permanent building societies balancing in the 1986–87 financial year. More detailed descriptions and dissections of these statistics may be found in the annual publication *Permanent Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5632.0).

Information relating to the housing finance operations of permanent building societies is provided within this chapter and in the monthly publication *Housing Finance for Owner Occupation, Australia* (5609.0).

Summary statistics on the assets and selected liabilities of permanent building societies registered under the *Financial Corporation Act 1974* are also given within this chapter.

PERMANENT BUILDING SOCIETIES: LIABILITIES AND ASSETS (a)
($ million)

Liabilities	*1986–87*	*Assets*	*1986–87*
Share capital and reserves:		Loan outstandings:	
Non-withdrawable shares	108.3	Owner occupied housing	10,939.7
Withdrawable shares	10,790.6	Other	3,201.8
Reserves—		Cash on hand	52.7
Statutory	29.3	Placements and deposits with:	
Other *(b)*	585.2	Savings and Trading banks	741.9
Borrowings from residents:		Other financial institutions	336.9
Banks	374.4	Other businesses	28.7
Secured borrowings	848.7	Bills, bonds and other securities	4,090.8
Unsecured borrowings	6,989.9	Accounts receivable	107.0
Accounts payable	95.0	Physical assets	544.3
Other liabilities	261.3	Other assets	38.8
Total liabilities	**20,082.7**	**Total assets**	**20,082.7**

(a) At the balance dates of societies within the financial year shown. *(b)* Includes accumulated surpluses and deficits.

PERMANENT BUILDING SOCIETIES: INCOME AND EXPENDITURE
($ million)

Expenditure	*1986–87*	*Income*	*1986–87*
Interest and dividends on withdrawable shares	1,218.6	Income on deposits with banks	118.0
Interest on:		Income from:	
Borrowings from banks	39.0	Placements and other deposits	44.1
Secured borrowings	93.1	Holdings of securities	581.3
Unsecured borrowings	1,018.8	Interest on loans	2,227.3
Wages and salaries	184.5	Management fees	53.6
Management fees *(a)*	52.2		
Administrative expenses *(b)*	202.9	Other income	68.5
Other expenditure	175.1		
Total expenditure	**2,984.1**	**Total income**	**3,092.9**

(a) Represents payments made by societies to separate management companies. *(b)* Includes Permanent Building Society Association costs, advertising, bank charges and other administrative expenses.

Cooperative Housing Societies

A cooperative housing society is defined as an organisation that:

- is registered under the relevant State or Territory legislation;
- is not authorised to accept money on deposit;
- is only allowed to raise money on loans;
- only provides finance to its members in the form of housing loans;
- does not cause or permit applicants for loans to ballot for precedence or in any way make the granting of a loan dependent on any chance or lot.

The statistics below summarise information collected from the 2,252 co-operative housing societies balancing within the 1986–87 financial year. More detailed descriptions and dissections of these statistics may be found in the annual publication *Co-operative Housing Societies: Assets, Liabilities, Income and Expenditure, Australia* (5633.0)..

COOPERATIVE HOUSING SOCIETIES: LIABILITIES AND ASSETS (a)
($ million)

Liabilities	*1986–87*	*Assets*	*1986–87*
Share capital*(b)*	0.1	Amount owing on loans*(b)*	1961.7
Accumulated funds*(c)*	26.5	Cash on hand and current	
Loans from:		accounts at banks	13.5
Banks	443.9	Deposits with:	
Commonwealth–State		Banks	11.5
Home Builders' Fund*(d)*	1,062.7	Others	29.5
Others	474.0	Physical assets	0.4
Other liabilities	13.4	Other assets	3.9
Total liabilities	**2,020.5**	**Total assets**	**2,020.5**

(a) At the balance dates of societies within the financial year shown. *(b)* Borrowing members' subscriptions have been offset against 'Amount owing on loans'. *(c)* Includes accumulated surpluses and deficits. *(d)* Refers to loans made through the Commonwealth–State Housing Agreements.

COOPERATIVE HOUSING SOCIETIES: INCOME AND EXPENDITURE
($ million)

Expenditure	*1986–87*	*Income*	*1986–87*
Interest paid on borrowing		Interest on:	
members' subscriptions	1.4	Loans to members	203.7
Interest on loans from:		Other	4.2
Banks	63.6		
Other	138.4	Management fees	14.3
Salaries and secretarial fees	13.5		
Other expenditure	5.7	Other income	4.9
Total expenditure	**222.6**	**Total income**	**227.1**

CREDIT COOPERATIVES

A credit cooperative (or credit union) is defined as an organisation that:

- is registered under relevant State or Territory legislation;
- operates on a cooperative basis by predominantly borrowing from and providing finance to its own members.

Credit cooperative annual financial account statistics were first collected on a national basis from all registered credit cooperatives for the year 1974–75 when there were 738 credit cooperatives with a total of 909,547 members. The number of credit cooperatives operating in 1985–86 was 454 with 2,311,228 members. Comprehensive financial account statistics are provided in the annual publication *Credit Co–operatives: Assets, Liabilities, Income and Expenditure, Australia* (5618.0).

Statistics on the assets and selected liabilities of credit cooperatives registered under the *Financial Corporations Act 1974* which have assets in Australia exceeding $5 million are provided within this chapter.

CREDIT COOPERATIVES: LIABILITIES AND ASSETS(a)
($ million)

Liabilities	*1985–86*	*Assets*	*1985–86*
Share capital and reserves—		Loan outstandings*(b)*	5,277.7
Paid-up share capital	19.5	Cash on hand	35.0
Reserves—		Placements and deposits—	
Statutory	106.7	Banks	115.0
Other*(c)*	186.9	Credit cooperative associations, etc.	459.1
Borrowings—		Other	142.5
Banks	40.1	Bills, bonds and other securities	220.8
Credit cooperative associations, etc.	61.6	Accounts receivable	35.6
Deposits	6,069.7	Physical assets	222.5
Other borrowings	15.8	Other assets	48.4
Accounts payable	31.6		
Other liabilities	24.7		
Total liabilities	**6,556.6**	**Total assets**	**6,556.6**

(a) At the balance dates of credit unions within financial year shown. *(b)* Net of unearned interest and allowance for doubtful debts. *(c)* Includes accumulated surpluses and deficits.

CREDIT COOPERATIVES: INCOME AND EXPENDITURE
($ million)

Expenditure	*1985–86*	*Income*	*1985–86*
Interest on borrowings—		Interest on deposits with banks	15.9
Deposits	635.3	Income from—	
Other borrowings	9.9	Placements and other deposits	79.8
Wages and salaries	117.5	Securities	32.0
Administrative expenses*(a)*	90.1	Interest on loans	847.4
Insurance premiums paid	11.7	Management fees	7.9
Allowance for doubtful debts	14.8	Bad debts recovered	2.2
Other expenditure*(b)*	78.5	Other income	28.2
Total expenditure	**957.7**	**Total income**	**1,013.4**

(a) Includes financial institutions duty. *(b)* Includes bank accounts debit tax.

SHORT-TERM MONEY MARKET

Authorised money market corporations

For some years prior to 1959, leading stockbrokers were actively engaged in operations which formed the basis of a short-term money market in Australia. The stockbrokers' operations involved the acceptance of short-term funds which were secured against government securities. These operations were severely limited by the lack of suitable short-term securities and by liquidity constraints. In February 1959 the Central Bank established the Official Short-Term Money Market by making available 'lender of last resort' facilities to selected dealers.

There are nine authorised money market dealers. Under the 'lender of last resort' arrangements, dealers may borrow from the Reserve Bank for a minimum of seven days and at a rate designed to discourage excessive recourse to the facility.

They are required by the Reserve Bank to:

- accept loans overnight, at call or for fixed periods, in minimum amounts of $50,000 and invest these funds in Commonwealth Government and other approved securities;
- at all times be willing traders in the buying and selling of approved securities;
- have a minimum paid-up capital of $400,000 and adhere to a maximum limit on the ratio of loans to shareholders' funds;

- consult regularly with the Reserve Bank on all money market matters and furnish detailed information about their portfolios, operations, interest rates, balance sheets and profit and loss accounts.

The following table contains details of selected liabilities and assets, and interest rates. Additional information on authorised dealers collected under the *Financial Corporations Act 1974* is provided within this chapter.

SHORT-TERM MONEY MARKET: SELECTED LIABILITIES AND ASSETS AND INTEREST RATES OF AUTHORISED DEALERS
(*Source:* **Reserve Bank of Australia**)

	Liabilities to clients			*Asset holdings (face value)*			*Interest rates on loans accepted during month*				*Weighted average interest rate on loans outstanding (c)*
							At call		*For fixed periods*		
Month	*All trading banks*	*Other clients*	*Total*	*Cwealth Govt securities (a)*	*Commercial bills(b)*	*Banks certificates of deposit*	*Minimum*	*Maximum*	*Minimum*	*Maximum*	
	Average of weekly figures—($ million)						*Per cent per annum*				
June—											
1983	193	1,303	1,496	1,100	361	177	1.00	25.00	2.00	15.00	9.76
1984	320	1,289	1609	1,181	449	231	1.00	17.46	4.00	13.75	11.42
1985	311	913	1,224	818	306	213	10.00	30.00	13.00	17.50	15.07
1986	902	414	1,316	981	286	207	4.00	22.50	11.75	13.00	13.20
1987	760	904	1,664	1,281	367	115	7.00	15.00	11.75	13.75	12.79
1988	1,031	759	1,790	1,187	502	214	5.25	16.00	10.65	12.00	11.79

(a) Within 5 years of maturity. (b) Accepted or endorsed by banks. (c) Weighted average of rates paid on all days of the four or five weeks ending on the last Wednesday of the month.

Money market corporations

There are also companies without Reserve Bank 'lender of last resort' facilities which operate in a similar manner to authorised dealers. These companies are recognised under the *Financial Corporations Act 1974* in the category of money market corporations. This category consists of registered corporations whose short-term borrowings are a substantial proportion of their total outstanding provision of finance, which is mainly in the form of loans to authorised dealers in the short-term money market and other liquidity placements, business loans and investments in government, commercial and corporate paper.

The category of money market corporations also includes registered corporations providing short-term finance but which are themselves financed by related corporations with funds raised on a short-term basis, as well as corporations which borrow principally short-term and lend predominantly to related money market corporations.

Statistics on money market corporations registered under the *Financial Corporations Act 1974* are contained in tables within this chapter.

FINANCE COMPANIES, GENERAL FINANCIERS, AUTHORISED MONEY MARKET DEALERS, MONEY MARKET CORPORATIONS AND OTHER FINANCIAL INSTITUTIONS

Information presented in the following tables has been compiled from returns collected under the *Census and Statistics Act 1905*, and first published for 1984–85, on the financial accounts of corporations registered under the *Financial Corporations Act 1974* and categorised as finance companies, general financiers, authorised money market dealers, money market corporations and other financial corporations. Descriptions of corporations in the various categories are:

(a) *Finance companies*: corporations which rely substantially on borrowing in financial markets in Australia and/or from abroad and whose provision of finance is predominantly in the form of business and commercial lending, instalment credit to finance retail sales by others and/or other loans to individuals.

(b) *General financiers*: corporations which lend predominantly for business and commercial purposes, instalment credit to finance retail sales of others and/or other loans to individuals but which do not rely substantially on borrowings in financial markets in Australia and from abroad.

(c) *Authorised money market dealers*: corporations which hold and deal in securities issued by the Australian Government and other securities; for that purpose, borrow money for short periods; and have entered into arrangements with the Reserve Bank which facilitate these operations.

(d) *Money market corporations*: corporations, other than authorised money market dealers, whose short term borrowings are a substancial proportion of their total outstanding provision of finance, which is mainly in the form of loans to authorised dealers in the short term money market, other liquidity placements, business loans and investments in Government, commercial and corporate paper.

(e) *Other financial corporations*: registered corporations that are not categorised as building societies, authorised money market dealers, finance companies, credit cooperatives, pastoral finance companies, general financiers or intro group financiers.

A corporation comes within the ambit of the Financial Corporations Act if:

(a) Its sole or principal business activity in Australia is the borrowing of money and the provision of finance; and

(b) Its assets in Australia arising from the provision of finance exceed 50 per cent (or a different percentage if prescribed by regulation) of the value of its assets in Australia; and

(c) The combined value of the assets of the corporation and its related financial corporations exceeds $1 million.

More detailed descriptions and disections of these statistics may be found in the following annual publications:

Finance Companies: Assets, Liabilities, Income and Expenditure, Australia (5616.0)

General Financiers and Other Financial Corporations: Assets, Liabilities, Income and Expenditure, Australia (5648.0)

Authorised Dealers and Money Market Corporations: Assets, Liabilities, Income and Expenditure, Australia (5650.0)

Additional information on these categories of corporations collected under the *Financial Corporations Act 1974* is provided within this chapter.

NOTE: Due to differences in coverage and classification criteria and definitions of data items the statistics for finance companies shown below are not comparable with the statistics published for finance companies prior to 1984–85.

FINANCE COMPANIES: ASSETS, LIABILITIES, INCOME AND EXPENDITURE, AUSTRALIA (a)

($ million)

	1984–85	*1985–86*	*1986–87*
Assets—			
Loan outstandings*(b)(c)*	22,433.3	26,010.1	26,598.8
Cash and bank deposits	98.6	242.4	100.4
Other placements and deposits	349.5	743.1	953.8
Bills, bonds and other securities—			
Government and semi-government	40.5	119.3	35.5
Other	874.9	1,049.6	861.1
Other financial assets	507.1	394.0	520.8
Other assets	418.2	394.2	441.6
Total assets	**24,722.0**	**28,952.7**	**29,511.9**
Liabilities—			
Paid up capital	1,302.1	1,303.6	1,695.9
Reserves	726.3	714.5	641.3
Unappropriated profits	788.1	915.0	730.4
Borrowings from—			
Banks	1,024.7	1,245.4	1,201.0
Other	19,878.2	23,633.7	23,745.1
Other liabilities	1,002.7	1,140.6	1,415.2
Total liabilities	**24,722.0**	**28,952.7**	**29,511.9**
Income for year—			
Interest on—			
Loans	3,691.7	4,169.3	4,587.6
Deposits with banks	8.3	21.7	8.6
Other income	450.6	449.8	637.1
Total income	**4,150.6**	**4,640.9**	**5,233.3**
Expenditure for year—			
Interest on borrowed funds	2,584.1	3,027.2	3,586.6
Wages and salaries (including long service leave)	300.1	333.9	313.9
Other expenditure	753.7	789.2	958.2
Total expenditure	**3,637.9**	**4,150.3**	**4,858.7**

(a) At the balance date of corporations within the financial year shown. *(b)* After deducting provision for doubtful debts of $255.9 million in 1984-85, $224.2 million in 1985-86 and $294.9 million in 1986-87. *(c)* Includes finance lease receivables.

GENERAL FINANCIERS: ASSETS, LIABILITIES, INCOME AND EXPENDITURE, AUSTRALIA (a)
($ million)

	1984–85	*1985–86*
Assets—		
Loan outstandings*(b)(c)*	2,501.2	3,565.4
Cash and bank deposits	49.9	125.3
Other placements and deposits	128.5	252.3
Bills, bonds and other securities—		
Government and semi-government	54.5	65.4
Other	252.1	354.4
Other financial assets	84.1	124.7
Other assets	166.3	186.6
Total assets	**3,236.6**	**4,674.1**
Liabilities—		
Paid up capital	203.8	249.3
Reserves	126.7	151.1
Unappropriated profits	63.4	85.6
Borrowings from—		
Banks	524.5	1,182.1
Other	2,172.0	2,844.1
Other liabilities	146.2	161.9
Total liabilities	**3,236.6**	**4,674.1**
Income for year—		
Interest on—		
Loans	425.8	616.7
Deposits with banks	3.6	3.3
Other income	108.2	144.1
Total income	**537.5**	**764.1**
Expenditure for year—		
Interest on borrowed funds	284.8	464.1
Wages and salaries (including long service leave)	31.5	43.3
Other expenditure	153.4	165.0
Total expenditure	**469.7**	**672.4**

(a) At the balance date of corporations within the financial year shown. *(b)* After deducting provision for doubtful debts of $31.7 million in 1984-85 and $43.4 million in 1985-86. *(c)* Includes finance lease receivables.

AUTHORISED MONEY MARKET DEALERS: ASSETS, LIABILITIES, INCOME AND EXPENDITURE, AUSTRALIA (a)

($ million)

	1984–85	*1985–86*	*1986–87*
Assets—			
Loan outstandings	1.3	0.3	1.9
Cash and bank deposits	291.7	133.6	121.3
Other placements and deposits	0.6	4.4	77.3
Bills, bonds and other securities—			
Government and semi-government	1,182.3	1,608.3	2,010.3
Other	390.3	389.3	420.1
Other financial assets	13.3	15.1	20.6
Other assets	1.9	0.9	0.9
Total assets	**1,881.3**	**2,151.9**	**2,652.4**
Liabilities—			
Paid up capital	47.9	55.6	68.2
Reserves	6.6	3.5	11.4
Unappropriated profits	19.4	7.1	2.4
Borrowings from—			
Banks	1,259.2	1,652.3	1,618.6
Other	528.8	421.4	939.1
Other liabilities	16.2	10.1	12.6
Total liabilities	**1,881.3**	**2,151.9**	**2,652.4**
Income for year—			
Interest on—			
Loans	1.0	1.7	1.7
Deposits with banks	12.7	9.0	15.2
Other income	197.5	314.8	336.5
Total income	**211.1**	**325.5**	**353.3**
Expenditure for year—			
Interest on borrowed funds	197.3	318.8	330.8
Wages and salaries (including long service leave)	4.2	3.3	3.7
Other expenditure	23.4	18.2	18.7
Total expenditure	**224.9**	**340.3**	**353.2**

(a) At the balance date of corporations within the financial year shown.

MONEY MARKET CORPORATIONS: ASSETS, LIABILITIES, INCOME AND EXPENDITURE, AUSTRALIA (a)
($ million)

	1984–85	*1985–86*	*1986–87*
Assets—			
Loan outstandings *(b)(c)*	8,148.4	11,307.3	13,631.5
Cash and bank deposits	1,069.2	1,272.9	1,433.5
Other placements and deposits	3,579.4	4,755.9	5,434.9
Bills, bonds and other securities—			
Government and semi-government	459.4	597.8	960.3
Other	5,419.3	5,812.0	8,120.2
Other financial assets	1,406.3	679.3	912.1
Other assets	303.6	409.7	1,198.0
Total assets	**20,385.6**	**24,834.9**	**31,690.6**
Liabilities—			
Paid up capital	554.7	1,081.8	1,632.6
Reserves	134.1	220.5	302.2
Unappropriated profits	235.3	219.3	313.0
Borrowings from—			
Banks	1,028.7	1,761.4	1,806.3
Other	16,982.9	20,872.3	26,557.8
Other liabilities	1,449.8	679.7	1,078.6
Total liabilities	**20,385.6**	**24,834.9**	**31,690.6**
Income for year—			
Interest on—			
Loans	908.7	1,341.8	2,056.1
Deposits with banks	66.5	136.7	162.3
Other income	1,503.6	2,321.3	2,964.0
Total income	**2,478.8**	**3,799.8**	**5,182.4**
Expenditure for year—			
Interest on borrowed funds	2,055.7	3,072.6	4,118.2
Wages and salaries (including long service leave)	122.7	184.3	214.5
Other expenditure	250.5	387.4	534.0
Total expenditure	**2,428.9**	**3,644.3**	**4,866.7**

(a) At the balance date of corporations within the financial year shown. *(b)* After deducting provision for doubtful debts of $56.6 million in 1984-85, $66.8 million in 1985-86 and $43.3 million in 1986-87. *(c)* Includes finance lease receivables.

OTHER FINANCIAL CORPORATIONS: ASSETS, LIABILITIES, INCOME AND EXPENDITURE, AUSTRALIA (a)
($ million)

	1984–85	*1985–86*
Assets—		
Loan outstandings*(b)*	63.5	68.0
Cash and bank deposits	54.7	26.4
Other placements and deposits	51.3	262.5
Bills, bonds and other securities—		
Government and semi-government	28.6	7.7
Other	189.3	155.3
Other financial assets	7.3	12.5
Other assets	8.2	6.7
Total assets	**402.7**	**539.1**
Liabilities—		
Paid up capital	6.5	6.8
Reserves	3.0	3.8
Unappropriated profits	–0.7	0.2
Borrowings from—		
Banks	2.7	8.7
Other	381.1	510.2
Other liabilities	10.1	9.6
Total liabilities	**402.7**	**539.1**
Income for year—		
Interest on—		
Loans	8.9	9.8
Deposits with banks	6.1	9.8
Other income	50.3	70.4
Total income	**65.3**	**90.0**
Expenditure for year—		
Interest on borrowed funds	51.8	72.2
Wages and salaries (including long service leave)	4.8	6.0
Other expenditure	7.6	9.9
Total expenditure	**64.2**	**88.1**

(a) At the balance date of corporations within the financial year shown. *(b)* Includes financial lease receivables.

FINANCIAL CORPORATIONS STATISTICS

The statistics provided in the following tables have been compiled from returns supplied to the Australian Bureau of Statistics by corporations registered under the *Financial Corporations Act 1974* (FCA). A summary of the objects and content of the Financial Corporations Act is given in *Year Book* No. 62, page 541.

More detailed descriptions and dissections of these statistics may be found in the monthly publications *Building Societies, Australia* (5637.0); *Authorised Dealers and Money Market Corporations, Australia* (5638.0); *Finance Companies, Australia* (5639.0) and *Credit Co-operatives, General Financiers and Other Financial Corporations, Australia* (5640.0).

Descriptions of the categories *building societies, credit cooperatives, authorised money market dealers, money market corporations, finance companies, general financiers* and *other financial corporations* appear in the respective parts of this chapter. Descriptions of the other categories are as follows:

Pastoral finance companies—comprising corporations whose provision of finance is predominantly in the form of loans to rural producers largely associated with the provision of rural services.

Intra group financiers—comprising corporations which predominantly borrow within a corporation group and/or provide finance by lending within their corporation group or by investing in financial markets.

FINANCIAL CORPORATIONS, AUSTRALIA: SELECTED LIABILITIES AND ASSETS(a) (b)
($ million)

SELECTED LIABILITIES AS AT 30 JUNE 1987

	Borrowings from—				
	Residents				
Category	*By acceptance of bills of exchange and issue of promissory notes*	*Related corporations*	*Banks*	*Other*	*Non-residents*
Building societies	35.2	46.9	381.2	16,464.9	137.6
Credit cooperatives	n.a.	n.a.	34.6	6,489.2	n.a.
Authorised money market dealers	n.a.	14.6	1,584.7	468.4	—
Money market corporations	1,993.2	1,827.5	2,205.5	21,186.9	8,780.3
Pastoral finance companies	64.7	1,524.4	739.0	735.8	365.0
Finance companies	893.1	1,157.1	1,394.9	19,341.0	1,800.2
General financiers	180.3	1,288.4	1,852.1	2,732.2	982.6
Intra group financiers	167.7	1,712.8	256.4	702.7	739.8
Other financial corporations	6.1	9.1	10.8	806.9	—
Total	**3,340.3**	**7,580.8**	**8,459.2**	**68,928.0**	**12,805.5**

ASSETS AS AT 30 JUNE 1987

Category	*Cash and bank deposits*	*Loans to authorised dealers in the STMM and other placements and deposits*	*Bills of exchange and promissory notes purchased and held(c)*	*Other Government and public authority securities*	*Other securities*	*Other assets arising from the provision of finance (d)*	*All other assets in Australia*	*Assets overseas*	*Total assets*
Building societies	710.6	279.1	2,500.5	1,137.7	143.7	12,803.6	720.8	5.0	18,301.0
Credit cooperatives	153.1	603.9	165.4	69.6	17.0	5,708.5	327.3	—	7,044.9
Authorised money market dealers	92.9	11.6	366.5	1,681.8	1.7	1.4	15.8	—	2,171.6
Money market corporations	1,428.2	7,015.0	8,017.2	867.1	2,238.5	17,673.1	1,022.0	1,311.3	39,572.5
Pastoral finance companies	10.2	133.2	141.6	—	836.0	5,111.4	551.8	21.7	6,805.9
Finance companies	122.3	1,433.6	560.3	25.0	563.2	26,081.2	658.1	53.3	29,496.9
General financiers	166.1	630.0	535.2	220.5	252.9	5,830.1	356.9	135.9	8,127.5
Intra group financiers	228.2	n.p.	333.2	—	201.8	n.p.	829.4	0.1	4,354.3
Other financial corporations	33.0	269.2	457.5	1.5	25.3	54.0	22.2	—	862.6
Total	**2,944.6**	**n.p.**	**13,077.4**	**4,003.2**	**4,280.1**	**n.p.**	**4,504.3**	**1,527.3**	**116,737.2**

(a) Excludes credit cooperatives and general financiers with assets not exceeding $5 million. (b) Excludes transactions with related corporations in the same FCA category. (c) Excludes bills that have been drawn or accepted by reporting corporations. (d) Includes holdings of bills that have been drawn by reporting corporations and loans that have been re-financed by the sale of bills accepted by reporting corporations.

CASH MANAGEMENT TRUSTS

A monthly statistical collection was introduced in May 1983 to obtain information on the operations of cash management trusts. A cash management trust is a unit trust which is governed by a trust deed, is open to the public, generally confines its investments to financial securities available through the short term money market, and whose units are redeemable by the trustee to the unit holder on demand.

The following table summarises the financial operations of cash management trusts.

CASH MANAGEMENT TRUSTS

				Assets ($ million)					
June—	*Number of trusts*	*Units in issue at end of period ($ million)*	*Weighted average net yield at end of period (% per annum)*	*Cash and deposits with banks*	*All other deposits and loans*	*Bills of exchange purchased and held*	*Promissory notes purchased and held*	*Other assets*	*Total assets*
1986	18	3,181.1	14.39	229.0	435.5	1,877.8	694.3	70.1	3,306.7
1987	19	3,162.9	13.29	304.8	530.1	2,107.6	355.9	72.5	3,370.9
1988	18	3,625.5	11.17	307.7	470.2	2,483.9	358.9	63.3	3,683.9

PUBLIC UNIT TRUSTS

A quarterly statistical collection was introduced in September 1985 to obtain information on the operations of listed and unlisted public unit trusts.

A public unit trust is defined as an arrangement (fund) which is governed by a trust deed between a management company and a trustee company; is open to the public within Australia for the purpose of investing the pooled funds of unitholders to yield returns in the form of income and/or capital gains; and allows unitholders to dispose of their units within a relatively short period of time. These statistics exclude cash management trusts, private trusts and trusts exempted from providing redemption facilities (e.g. film and agricultural trusts).

The major distinction between a listed and an unlisted unit trust is that a listed unit trust's units must be listed on Australian Stock Exchanges and adhere to listing requirements similar to those for company shares.

The following tables summarise the financial operations of public unit trusts.

UNIT TRUSTS: SUMMARY

			Assets ($ million)				
Quarter	*Number of trusts*	*Units in issue at end of the period ($ million)*	*Shares*	*Property at the end of the quarter*	*Loan out-standings secured by mortgages on land and buildings*	*Other assets*	*Total assets*
			UNLISTED				
1985–86—							
December	230	4,649.3	1,150.8	2,672.4	807.0	847.3	5,477.5
March	239	4,891.8	1,374.9	2,737.9	815.1	850.5	5,778.5
June	255	5,405.7	1,570.8	2,850.9	811.8	1,163.6	6,397.1
1986–87—							
September	258	6,165.8	2,098.5	3,034.7	813.3	1,309.3	7,255.8
December	271	6,815.2	2,417.3	3,218.4	826.1	1,595.6	8,057.4
March	286	7,816.5	3,102.0	3,322.8	863.2	1,741.5	9,029.4
			LISTED				
1985–86—							
December	35	2,702.1	19.7	1,786.7	4.7	1,897.1	3,708.2
March	39	3,047.2	40.4	1,975.5	13.6	2,031.2	4,060.7
June	42	3,942.8	56.9	2,030.6	10.2	2,156.8	4,254.7
1986–87—							
September	44	4,619.3	86.7	2,257.4	7.4	2,312.0	4,663.3
December	46	4,869.8	95.8	2,459.3	5.6	2,605.5	5,166.2
March	48	5,060.2	196.2	2,608.1	5.7	2,737.5	5,547.5
			TOTAL				
1985–86—							
December	265	7,351.3	1,170.6	4,459.1	811.7	2,744.4	9,185.7
March	278	7,939.0	1,415.3	4,713.4	828.8	2,881.7	9,839.2
June	297	9,348.5	1,627.7	4,881.5	822.0	3,320.4	10,651.7
1986–87—							
September	302	10,785.1	2,185.2	5,292.1	820.7	3,621.3	11,919.1
December	317	11,685.0	2,513.0	5,677.7	831.7	4,201.1	13,223.6
March	334	12,876.7	3,298.2	5,931.0	868.9	4,478.8	14,576.9

LIFE INSURANCE

Statistics in the following tables have been derived from the publications of the Life Insurance Commissioner and relate to the life insurance business of companies with head offices in Australia and the Australian business of companies with head offices overseas. Also included are the life business operations voluntarily reported by three State Government Insurance Offices.

Information contained in the following three tables does not relate to uniform accounting periods but to the balance dates of organisations falling within the calendar year shown.

LIFE INSURANCE OFFICES: LIABILITIES AND ASSETS
($ million)

	1984	*1985*	*1986*
Liabilities—Australian and overseas—			
Total balances of revenue accounts at end of year	27,624.6	34,395.7	43,914.3
Reserves	698.9	899.1	4,514.5
Total	*28,323.5*	*35,294.8*	*48,428.8*
Other liabilities—			
Bank overdraft	280.9	104.6	165.3
Deposits	242.8	230.7	825.5
Claims admitted	165.4	188.3	199.8
Sundry creditors	233.8	377.9	664.9
Provisions for taxation	791.2	1,055.6	2,260.9
Provision for superannuation and long-service leave	54.0	63.4	72.4
Miscellaneous liabilities	83.8	78.0	214.5
Total liabilities	**30,175.6**	**37,393.3**	**52,832.1**
Assets—Australia and overseas—			
Property and fixed assets	5,660.3	7,144.2	9,555.6
Loans	3,298.5	3,742.4	4,417.9
Investment	19,372.0	23,539.5	35,307.6
Cash and deposits	766.0	1,683.8	2,087.5
Outstanding premiums including advances of premiums	368.7	417.5	472.1
Outstanding interest, dividends and rents	423.3	533.2	530.9
Sundry debtors	221.5	262.9	413.5
Miscellaneous assets	65.3	69.8	47.0
Total assets	**30,175.6**	**37,393.3**	**52,832.1**

LIFE INSURANCE OFFICES: REVENUE AND EXPENDITURE
($ million)

	1984	*1985*	*1986*
Balance of Revenue Account at beginning of year—Australia and overseas	*24,950.9*	*27,620.4*	*34,395.7*
Revenue—			
Single premiums	977.6	1,368.8	3,211.1
Other premiums	3,443.5	4,089.4	4,651.9
Net interest	2,229.0	2,725.9	3,456.5
Net conversion and transfer values-in	35.9	(–)2.5	5.6
Net transfers from reserves and provisions within fund	(–)433.8	(–)181.5	(–)2,075.8
Other net transfers within statutory fund-in	—	(–)1.7	—
Net profit (or loss) on realisation or revaluation of assets	1,191.9	2,458.1	5,865.2
Miscellaneous income	(–)840.7	1,214.1	442.6
Total revenue	*6,603.4*	*11,670.6*	*15,557.1*
Total	**31,554.3**	**39,291.0**	**49,952.8**
Expenditure—			
Claims by death and disability	536.8	592.1	663.4
Claims by maturity	757.8	840.7	961.5
Surrenders and bonuses in cash	1,440.3	1,922.2	2,562.0
Annuities	15.8	25.2	38.5
Commissions	435.1	516.8	656.0
Salaries	284.5	326.6	397.3
Contribution to staff superannuation	54.6	58.4	61.8
Taxes (other than those charged on interest dividends and rents)	33.0	36.0	52.8
Other expenses	275.9	346.1	479.4
Transfer out of statutory fund	95.8	231.2	165.8
Total expenditure	*3,929.6*	*4,895.3*	*6,038.5*
Balance of Revenue Account at end of year—Australia and overseas	*27,624.6*	*34,395.7*	*43,914.3*
Total	**31,554.3**	**39,291.0**	**49,952.8**

LIFE INSURANCE: SUMMARY

	Insurance and endowment policies			
	Number of policies ('000)	*Sum insured ($ million)*	*Business issued by single premiums ($ million)*	*Annual premiums ($ million)*
ORDINARY AND INDUSTRIAL BUSINESS				
New policies issued—				
1985	599	23,423	836.8	263.4
1986	693	24,627	1,733.4	291.8
1987	925	30,387	3,760.8	390.6
Policies discounted or reduced *(a)*—				
1985	635	11,459	..	138.0
1986	619	13,268	..	146.4
1987	712	16,704	..	185.6
Policies existing at end of—				
1985	5,884	109,416	..	1,238.8
1986	5,958	120,775	..	1,384.2
1987	6,171	134,617	..	1,590.3
SUPERANNUATION BUSINESS				
New policies issued—				
1985	179	23,921	451.8	593.7
1986	247	42,267	788.4	805.8
1987	344	38,870	1,787.0	1,080.1
Policies discontinued or reduced *(a)*—				
1985	65	13,186	..	282.9
1986	64	15,156	..	373.8
1987	101	19,222	..	491.2
Policies existing at end of—				
1985	1,275	104,106	..	2,319.0
1986	1,458	131,217	..	2,751.0
1987	1,701	140,370	..	3,339.4

(a) Includes transfers.

GENERAL INSURANCE

Statistics in the following tables have been derived from the publications of the Insurance and Superannuation Commissioner. The statistics relate to the operations of:

(a) *Bodies corporate* authorised to carry on insurance business under the *Insurance Act 1973;* and

(b) *Government instrumentalities,* i.e. State Government Insurance Offices and Commonwealth Government and State Government instrumentalities in respect of their general insurance business.

These statistics are based on the following definitions:

Premiums comprise the full amount receivable in respect of direct insurance and facultative reinsurance business written or renewed within Australia, during the year. Premiums are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from 'earned premium income' appropriate to the year.

Claims comprise, for direct insurance and facultative reinsurance business, payments made during the year. Salvage and other amounts recoverable other than Reinsurance recoveries have been deducted.

Information contained in the following tables does not relate to uniform accounting periods but to the financial years of the organisations which ended during the years shown.

GENERAL INSURANCE: PREMIUMS AND CLAIMS BY PRINCIPAL CLASS OF BUSINESS
($ million)

Class of business	*1984–85*	*1985–86*	*1986–87*
PREMIUMS			
Fire *(a)*	639.2	725.7	854.2
House Owners' and House-holders'	703.5	782.3	826.3
Contractors' All Risks	57.0	64.6	86.0
Marine and Aviation	190.8	211.9	240.1
Motor Vehicle Comprehensive	1,181.9	1,392.5	1,664.9
Compulsory Third Party (Motor Vehicle)	88.3	118.6	132.4
Employers Liability *(b)*	1,673.0	1,607.4	1,267.9
Public Liability *(c)*	256.4	352.9	500.1
All other	535.7	631.0	703.8
Total	**5,325.8**	**5,886.8**	**6,275.6**
CLAIMS			
Fire *(a)*	314.2	417.7	403.0
House Owners' and House-holders'	305.0	372.4	409.3
Contractors' All Risks	36.2	38.6	41.6
Marine and Aviation	108.4	114.6	125.8
Motor Vehicle Comprehensive	836.0	1,127.8	1,370.7
Compulsory Third Party (Motor Vehicle)	55.3	64.4	60.8
Employers Liability *(b)*	1,117.7	1,332.1	1,308.6
Public Liability *(c)*	112.9	126.4	140.2
All other	234.1	272.3	325.4
Total	**3,119.9**	**3,866.2**	**4,185.5**

(a) Includes sprinkler leakage, loss of profits, and crop and hailstone insurance. *(b)* Excludes workers' compensation insurance in the coal mining industry in NSW. *(c)* Includes product liability and professional indemnity insurance.

SUPERANNUATION FUNDS AND SCHEMES

The following statistics have been compiled from several superannuation surveys conducted by the Australian Bureau of Statistics for the year 1985–86. Detailed definitions of data items are provided in ABS publications *Superannuation Funds, Australia 1985–86* (5649.0) and *Public Sector Superannuation Funds and Schemes, Australia* (5511.0)

The following types of superannuation schemes and funds, whose primary purpose is to provide benefits on retirement, are covered:

- Private sector funds—
  - Restricted membership funds—
    - Employees' funds
    - Self-employed persons' group funds
  - Open funds
- Public sector funds and schemes—
  - Self-administered funds
  - Life insurance offices' funds and schemes.

Excluded from these statistics are:

- private sector funds that are wholly administered by life insurance offices;
- superannuation arrangements that are unfunded (i.e. where the benefits are met from the employers' resources as they are payable);
- the Commonwealth Superannuation Scheme.

PRIVATE SECTOR FUNDS AND PUBLIC SECTOR SELF-ADMINISTERED FUNDS: INCOME, EXPENDITURE, ASSETS, LIABILITIES, MEMBERS AND PENSIONERS, 1985–86

($ million)

	Private sector funds				*Public sector self administered funds*	*Total*
	Restricted membership		*Open funds*	*Total private sector*		
	Employees	*Self-employed group*				
Income—						
Contributions—						
Employees	409	7	37	453	1,124	1,577
Employers	812	—	—	812	1,879	2,691
Interest, dividends and rent	1,555	9	25	1,590	2,344	3,933
Other income	1,766	9	2	1,777	489	2,267
Total income	**4,542**	**25**	**64**	**4,632**	**5,836**	**10,468**
Expenditure—						
Pensions	86	—	—	86	1,144	1,230
Lump sum payments	1,123	8	36	1,167	1,355	2,522
Other expenditure	444	1	3	448	208	656
Total expenditure	**1,653**	**9**	**39**	**1,701**	**2,707**	**4,408**
Assets—						
Cash and savings and trading bank deposits	496	4	15	515	172	688
Placements with authorised dealers in the short term money market	218	1	—	219	159	378
Other placements and deposits	786	2	7	794	361	1,156
Bills of exchange and promissory notes held	399	5	13	417	650	1,067
Government and public authority securities	3,172	24	70	3,266	7,149	10,414
Other securities	4,949	38	88	5,075	2,703	7,778
Financial lease receivables	29	—	—	29	1	30
Loan outstandings	303	1	13	317	1,393	1,710
Other assets	5,970	38	181	6,190	7,999	14,188
Total assets	**16,322**	**112**	**388**	**16,822**	**20,587**	**37,409**
Liabilities—						
Accumulated Funds	16,111	112	386	16,609	20,259	36,869
Accounts payable and other liabilities	210	—	2	212	328	540
Total liabilities	**16,322**	**112**	**388**	**16,822**	**20,587**	**37,409**
Members at last balance date (No.)	510,498	9,277	113,117	632,892	741,835	1,374,727
Pensioners at last balance date (No.)	24,643	—	—	24,643	129,317	153,960
Funds (No.)	2,099	17	16	2,132	94	2,226

PUBLIC SECTOR LIFE INSURANCE OFFICE INVESTED SCHEMES: INCOME, EXPENDITURE AND MEMBERSHIP, 1985–86

($ million)

Income—	
Contributions—	
Members	28
Employers	50
Other income	78
Total income	**156**
Expenditure—	
Pensions	2
Lump sum payments	47
Other expenditure	81
Total expenditure	**130**
Members at last balance date (No.)	26,882
Funds (No.)	105

HOUSING FINANCE FOR OWNER OCCUPATION

The following tables present statistics of secured housing finance commitments made by significant lenders to individuals for the construction or purchase of dwellings for owner occupation. For more comprehensive statistics and detailed information on the scope and coverage of these statistics refer to the monthly publication *Housing Finance for Owner Occupation, Australia* (5609.0).

HOUSING FINANCE FOR OWNER OCCUPATION
($ million)

	Finance commitments for—				
	Construction or purchase dwellings	*Alterations and additions*	*Cancellations of commitments*	*Commitments advanced (a)*	*Commitments not advanced (a)*
1985–86	11,533.7	507.2	507.7	11,919.0	2,217.4
1986–87	12,830.1	498.5	465.9	12,599.0	2,481.0
1987–88	20,109.6	707.3	617.6	18,064.4	4,593.2

(a) Prior to January 1985, excludes Trading Banks.

HOUSING FINANCE FOR OWNER OCCUPATION: NUMBER OF DWELLING UNITS AND VALUE OF COMMITMENTS TO INDIVIDUALS BY TYPE OF LENDER

	Banks		*Permanent building societies*	*Other lenders (a)*	*Total*
	Savings	*Trading*			
CONSTRUCTION OF DWELLINGS					
			—number—		
1985–86	30,482	7,917	7,955	5,501	51,855
1986–87	33,038	4,197	5,523	3,797	46,555
1987–88	47,429	4,996	8,823	4,378	65,626
			—$ million—		
1985–86	1,173.3	297.9	379.2	230.4	2,080.8
1986–87	1,399.7	182.4	267.7	146.3	1,996.1
1987–88	2,254.1	302.7	482.9	179.7	3,219.3
PURCHASE OF NEWLY ERECTED DWELLINGS					
			—number—		
1985–86	10,139	2,235	3,880	3,617	19,871
1986–87	12,030	1,272	2,168	2,294	17,764
1987–88	12,876	1,470	3,056	1,778	19,180
			—$ million—		
1985–86	406.9	92.3	203.9	153.5	856.6
1986–87	562.4	73.0	115.4	91.0	841.7
1987–88	686.0	115.1	181.5	75.6	1,058.2

For footnotes see end of table.

HOUSING FINANCE FOR OWNER OCCUPATION: NUMBER OF DWELLING UNITS AND VALUE OF COMMITMENTS TO INDIVIDUALS BY TYPE OF LENDER—*continued*

	Banks		*Permanent building societies*	*Other lenders (a)*	*Total*
	Savings	*Trading*			
PURCHASE OF ESTABLISHED DWELLINGS					
			—number—		
1985–86	122,005	22,930	40,638	18,562	204,135
1986–87	154,539	12,809	33,664	14,007	215,019
1987–88	200,060	19,729	51,630	15,507	286,926
			—$ million—		
1985–96	4,798.9	1,046.5	1,892.8	858.1	8,596.3
1986–87	7,068.4	708.0	1,615.9	599.8	9,992.1
1987–88	10,671.7	1,574.7	2,876.5	708.9	15,831.8
TOTAL					
			—number—		
1985–86	162,626	33,082	52,473	27,680	275,861
1986–87	199,607	18,278	41,355	20,098	279,338
1987–88	260,365	26,195	63,509	21,663	371,732
			—$ million—		
1985–86	6,379.1	1,436.7	2,476.0	1,242.0	11,533.7
1986–87	9,030.5	963.4	1,999.0	837.1	12,830.1
1987–88	13,611.7	1,992.5	3,540.9	964.2	20,109.4

(a) Includes cooperative housing societies, finance companies, governments, credit cooperatives and insurance companies.

PERSONAL, COMMERCIAL AND LEASE FINANCE

Three new monthly collections were introduced in January 1985 to measure the lending activity of significant lenders in the fields of personal, commercial and lease finance. These collections replaced two previous collections, the results of which were published in *Finance Companies, Australia* (5614.0) and *Instalment Credit for Retail Sales, Australia* (5631.0).

Personal finance

The following tables present statistics of finance commitments made by significant lenders to individuals for their own personal (non-business) use. For more comprehensive statistics and detailed information on the scope and coverage of these statistics refer to the monthly publication *Personal Finance, Australia* (5642.0).

PERSONAL FINANCE COMMITMENTS (a): TYPE OF LENDER
($ million)

	All banks	*Finance companies*	*Credit cooperatives*	*Other lenders (b)*	*Total*
1985–86	9,764.0	3,252.0	1,658.9	229.9	14,905.0
1986–87	10,166.2	2,926.9	1,771.0	365.7	15,229.7
1987–88	14,405.6	3,242.0	1,844.6	441.4	19,933.6

(a) Includes both fixed loan facilities and new and increased lending commitments under revolving credit facilities. *(b)* Includes permanent building societies, general financiers, retailers, and for 1985-86 only, life insurance companies.

PERSONAL FINANCE COMMITMENTS: TYPE OF FACILITY, ALL LENDERS
($ million)

		Revolving credit commitments			
	Fixed loan commitments	New and increased credit limits	Cancellations and reductions in credit limits	Credit limits	
				Total	Used
1985–86	(a)10,634.9	4,270.1	2,316.3	13,084.2	5,501.1
1986–87	9,754.3	5,475.4	2,558.3	16,993.4	7,665.1
1987–88	11,864.6	8,069.0	3,909.9	21,484.0	9,328.7

(a) Includes commitments for loans on life policies.

Commercial finance

The statistics in the following tables measure commitments made by significant lenders to government, private and public enterprises and non-profit organisations as well as to individuals (for investment and business purposes). For more comprehensive statistics and detailed information on the scope and coverage of these statistics refer to the monthly publication *Commercial Finance, Australia* (5643.0).

COMMERCIAL FINANCE COMMITMENTS (a): TYPE OF LENDER
($ million)

	Trading banks	Other banks	Finance companies	Money market corporations	Other lenders (b)	Total
1985–86	38,426.9	2,387.1	7,986.1	11,670.7	845.7	61,316.5
1986–87	57,647.0	3,189.9	6,949.6	9,132.4	203.2	77,122.0
1987–88	81,935.0	6,697.5	8,710.0	10,690.5	147.6	108,594.0

(a) Includes both fixed loan facilities and new and increased lending commitments under revolving credit facilities. (b) Includes permanent building societies, general financiers and pastoral finance companies.

COMMERCIAL FINANCE COMMITMENTS: FIXED LOAN FACILITIES
($ million)

	Construction	Purchase of real property	Purchase of plant and equipment	Refinancing	Other purposes	Total
1985–86	3,535.9	4,622.9	2,197.0	2,653.7	12,391.8	25,401.2
1986–87	3,455.9	4,484.1	2,031.9	2,579.5	10,831.9	23,383.2
1987–88	5,018.0	8,520.8	3,809.2	4,062.0	13,092.0	34,502.0

COMMERCIAL FINANCE COMMITMENTS (a) INDUSTRY OF BORROWER
($ million)

Industry of borrower	*1986–87* New fixed loan commitments during period	New and increased credit limits during period	Total new commitments during period	*1987–88* New fixed loan commitments during period	New and increased credit limits during period	Total new commitments during period
Agriculture, forestry, fishing and hunting	1,712.0	3,197.5	4,909.5	3,243.9	3,564.7	6,808.6
Mining	537.4	2,745.9	3,283.3	802.5	2,638.7	3,441.2
Manufacturing	1,928.1	10,196.3	12,124.4	2,035.4	11,837.8	13,873.2
Construction	3,527.2	2,555.7	6,082.9	5,385.5	5,097.4	10,482.9
Wholesale trade	1,223.8	2,657.0	3,880.8	1,294.6	4,352.2	5,646.8
Retail trade	1,831.0	4,001.1	5,832.1	2,546.6	5,472.7	8,019.3
Transport and storage	757.5	1,116.2	1,873.7	963.6	1,420.8	2,384.4
Finance, investment and insurance	4,362.7	14,189.3	18,552.0	6,012.6	18,621.6	24,634.2
Property and business services	3,205.7	7,132.4	10,338.1	5,110.9	8,650.6	13,761.5
Other industries	4,297.7	5,947.4	10,245.1	7,106.4	12,022.4	19,128.8
Total industries	**23,383.2**	**53,738.8**	**77,122.0**	**34,502.0**	**53,738.8**	**77,122.0**

(a) Includes both fixed loan facilities and new and increased lending commitments under revolving credit facilities.

Lease finance

The statistics in the following tables measure lease finance commitments made by significant lenders to trading and financial enterprises, non-profit organisations, governments, public authorities and individuals. For more comprehensive statistics and detailed information on the scope and coverage of these statistics refer to the monthly publication *Lease Finance, Australia* (5644.0).

LEASE FINANCE COMMITMENTS: TYPE OF LESSOR
($ million)

	All banks	*Money market corporations*	*Finance companies*	*General financiers*	*Total*
1985–86	1,150.5	319.4	3,848.2	274.4	5,592.6
1986–87	1,233.6	287.7	3,420.9	575.2	5,517.4
1987–88	1,825.4	412.5	3,977.2	578.2	6,793.3

LEASE FINANCE COMMITMENTS: TYPE OF GOODS LEASED
($ million)

Types of goods	*1985–86*	*1986–87*	*1987–88*
Motor vehicles and other transport equipment	3,084.2	2,939.1	3,504.1
Construction and earth moving equipment	444.2	317.4	306.6
Agricultural machinery and equipment	216.6	150.3	183.3
Automatic data processing equipment and office machinery	439.7	765.5	841.8
Shop and office furniture, fittings and equipment	450.8	580.8	653.0
Other goods	957.0	764.3	1,304.5
Total	**5,592.6**	**5,517.4**	**6,793.3**

LEASE FINANCE COMMITMENTS: INDUSTRY OF LESSEE
($ million)

Industry of lessee	*1985–86*	*1986–87*	*1987–88*
Agriculture, forestry, fishing and hunting	437.4	346.7	439.0
Mining	146.4	92.7	110.4
Manufacturing	714.9	691.3	1,041.6
Construction	495.9	451.2	548.4
Wholesale trade	314.9	289.3	305.5
Retail trade	738.0	698.2	838.9
Transport and storage	794.4	812.9	901.3
Finance, investment and insurance	196.2	499.9	538.0
Property and business services	699.9	687.1	907.3
Community services	296.5	221.7	326.1
Other industries	758.1	726.3	836.8
Total industries	**5,592.6**	**5,517.4**	**6,793.3**

NEW CAPITAL RAISINGS BY COMPANIES LISTED ON AUSTRALIAN STOCK EXCHANGES

Information relating to capital raised by companies listed on Australian Stock Exchanges is given in the following table.

LISTED COMPANIES: NEW CAPITAL RAISED THROUGH ISSUES OF SHARES (a) AND THROUGH DEBENTURES, UNSECURED NOTES, LOANS AND DEPOSITS
($ million)

	Share capital				*Debentures, unsecured notes, loans and deposits*			
	Total amount of issues commenced				*Period to maturity (b)*			
	Type of consideration							
Year ended June	*Cash*	*Other than cash (c)*	*Total amount including premiums etc.*	*Net cash raised during period (d)*	*12 months or less*	*Over 12 months*	*Total (e)*	*Total capital*
NEW CAPITAL RAISED								
1982	1,379.5	890.1	2,269.6	1,593.7	10,836.4	3,534.5	14,370.9	15,964.6
1983	908.8	299.3	1,208.1	1,013.5	8,970.6	3,393.7	12,364.3	13,377.8
1984	2,153.8	736.6	2,890.4	1,758.0	9,983.1	3,227.2	13,210.3	14,968.3
1985	2,102.9	779.9	2,882.8	2,178.1	10,113.1	4,096.1	14,209.2	16,387.3
1986 (*f*)	3,992.4	1,164.3	5,156.7	4,013.9	14,736.5	5,993.3	20,729.8	24,743.7
1987	14,566.2	6,656.5	21,228.8	13,992.8	12,473.8	8,734.2	21,208.0	35,200.8
REDEMPTIONS								
1982	—	—	—	—	10,089.0	2,412.1	12,501.1	12,501.1
1983	—	—	—	—	9,291.0	2,569.8	11,860.8	11,860.8
1984	—	—	—	—	10,018.3	2,644.4	12,662.7	12,662.7
1985	—	—	—	—	9,748.5	2,550.5	12,299.0	12,299.0
1986	—	—	—	—	14,990.2	4,093.4	19,083.6	19,083.6
1987	—	—	—	—	15,649.7	5,920.0	21,569.7	21,569.7
NET CASH RAISED								
1982	1,379.5	890.1	2,269.6	1,593.7	747.4	1,122.4	1,869.8	3,463.5
1983	908.8	299.3	1,208.1	1,013.5	(–)320.4	823.9	503.5	1,517.0
1984	2,153.8	736.6	2,890.4	1,758.0	(–)35.2	582.8	547.6	2,305.6
1985	2,102.9	779.9	2,882.8	2,178.1	364.6	1,545.6	1,910.2	4,088.3
1986 (*f*)	3,992.4	1,164.3	5,156.7	4,013.9	(–)253.7	1,899.9	1,646.2	5,660.1
1987	14,566.2	6,656.5	21,228.8	13,992.8	(–)3,175.9	2,814.2	(–)361.7	13,631.1

(*a*) Includes share subscriptions by overseas investors to issues in Australia. (*b*) Period from date of issue to maturity. Securities that are repayable at call or on an indefinite date are included in the "12 months or less" period. (*c*) Includes bonus issues, issues in exchange for existing shares, etc. (*d*) Includes calls on issues commenced in earlier years. (*e*) Includes conversions, renewals, etc. (*f*) Break in series due to improved coverage.

These statistics cover capital raised through share and debenture subscriptions and by way of deposits, unsecured notes and loans secured over the entire assets of the company. The following funds are excluded from the collections:

- all capital raised from Australian banks (other than direct equity investment), i.e. overdrafts, mortgage loans, terms loans or debentures;
- temporary advances or short-term deposits from any source;
- complete or partial issues by Australian companies on overseas markets taken up through overseas brokers.

Listed companies are companies incorporated in Australia whose shares, debentures or other securities are listed on one or more of the Australian Stock Exchanges. For such companies new cpaital includes;

- all issues of ordinary shares if any ordinary shares are listed;
- all issues of preference shares if any preference shares are listed;
- all issues of debentures, unsecured notes, secured and unsecured loans and deposits if any shares or other securities are listed.

More detailed statistics concerning New Capital Raisings may be found in the quarterly publication *New Capital Raisings by Companies Listed on Australian Stock Exchanges* (5628.0)

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24

PUBLIC FINANCE

This chapter deals with the financial activities of the organisations which make up the three levels of government in the Australian political system—Commonwealth, State and local—and which collectively constitute the public sector. An account is given of the activities of each level of government, with particular emphasis being given to the Commonwealth Government. Tables are then presented which bring together the transactions of all public non-financial enterprises to highlight the role in the Australian economy of the public sector as a whole. Then follows a section on government borrowing activities at all levels.

Concepts and Definitions Used in Public Finance Statistics

The tables below (except those explicitly sourced to Budget Papers) are provided from the system of government finance statistics (GFS). To assist users in understanding the statistics presented in these tables, a separate publication *Classifications Manual for Government Finance Statistics, Australia* (1217.0) has been produced. It outlines the major concepts used, provides definitions of the enterprise unit used for GFS collections and of transactions classifications employed. The GFS classifications used in the tables that follow are:

- the *Economic Transactions Framework* (ETF) which categorises outlays, revenue, grants received and financing transactions according to their economic character to facilitate study of the macroeconomic effect of government activity on the economy and to provide the basic building blocks for grouping transactions to be incorporated into the Australian National Accounts;
- the *Taxes, Fees and Fines Classification* (TFFC) which dissects this major form of government revenue according to the type of tax, fee or fine collected; and
- the *Government Purpose Classification* (GPC) which is used to group outlays with similar functions to facilitate study of the broad purposes of public sector spending and assessment of the effectiveness of outlays in meeting government policy objectives.

Commonwealth Government Finance

Financial provisions of the Constitution

The main provisions of the Constitution relating to the initiation and development of the financial system of the Commonwealth of Australia are contained in Sections 81 to 105A of the Commonwealth Constitution.

Two other sections which have a most important bearing on questions of Commonwealth finance are Sections 69 and 51. Section 69 provides for the transfer from the States to the Commonwealth of certain specified departments, and Section 51, in outlining the powers of the Commonwealth Parliament, implies the transfer or creation of other departments.

Sections 87 and 96 of the Constitution deal with the financial relations between the Commonwealth and the States. The full text of the Financial Agreement of 1927 was given in *Year Book* No. 31, page 21; accounts of this Agreement as affected by subsequent Agreements were included in later issues of the *Year Book* up to No. 37; details of the main provisions appeared in further issues of the *Year Book* up to No. 50. For details of current provisions for financial assistance to the States reference should be made to the *Commonwealth Budget Paper No. 4 Commonwealth Financial Relations with Other Levels of Government, 1987–88.*

The *Audit Act 1901* lays down the procedure which must be followed in accounting for the receipt and disbursement of public funds. The general administration of Commonwealth Government finances is the responsibility of the Commonwealth Minister for Finance.

Commonwealth Government Budget

The Commonwealth Government Budget records the transactions of those enterprises of the Commonwealth Government whose receipts and payments are summarised in the statements of Public Account balances. In 1986–87 the change in cash balances was represented by the following:

	$'000
Net Cash receipts of the Consolidated Revenue Fund	73,782,794
plus cash receipts of Loan Fund	42,610,574
plus cash receipts of Trust Fund	7,001,411
Total	*123,394,779*
less cash payments from Consolidated Revenue Fund	73,782,794
less cash payments from Loan Fund	42,217,285
Less cash payments from Trust Fund (including decrease in investments of the Trust Fund)	6,646,146
Total	*122,646,225*
equals increase in cash balances	748,555

Revenues from taxation and other sources are paid into the Consolidated Revenue Fund, from which the main expenditures are for defence, social services, payments to the States and general administration. The Trust Fund covers special transactions outside the ordinary operations of departmental expenditures, such as pension funds and moneys held for expenditure by the Commonwealth Government at some future time. The Loan Fund receives its funds from the sale of Commonwealth Government securities, and the expenditures from the Fund are made in accordance with the purpose of issue of each loan. The main disbursements from the Loan Fund are to the States by way of distribution of the proceeds of loans raised by the Commonwealth Government on their behalf and by capital assistance grants, the remaining disbursements being mainly for Commonwealth Government purposes.

The estimated outlay, revenue and deficit of the Budget for 1987–88 are set out in the table which follows, together with figures for the years 1982–83 to 1986–87. The national accounting presentation of the Budget is shown in order to be consistent with other transactions figures given in this chapter.

It should be noted that some transactions undertaken by enterprises covered by the Budget are not reflected in the change in cash balances, usually because they are not cash transactions or because a receipt and a payment are offset against each other so that only a net amount is included in published totals. The national accounting presentation of the Budget includes these additional transactions.

OUTLAYS, REVENUE AND DEFICIT OF THE COMMONWEALTH BUDGET
($ million)

(Source: Budget Paper No. 1 Budget Statements 1987–88)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88 Budget Estimates*
Outlay—						
Net expenditure on goods and services—						
Current	8,567	9,964	11,201	12,634	13,705	14,388
Capital *(a)*	340	275	377	409	386	633
Total	8,907	10,239	11,578	13,043	14,091	15,021
Transfer payments—						
Personal benefit payments	15,588	18,399	20,677	22,373	24,085	26,784
Grants to States and Northern Territory	15,388	17,780	19,637	20,997	22,580	23,728
Grants to non-profit institutions	506	603	729	777	1,029	887
Interest paid	3,378	4,334	5,664	7,088	7,978	7,903
Transfers overseas	697	749	834	832	783	818
Subsidies	1,204	1,229	1,346	1,358	1,061	983
Grants for private capital purposes	241	328	388	331	298	345
Transfers to non-budget sector *(b)*	1,481	1,590	1,886	2,249	2,469	2,737
Other Transfers n.e.c.	51	59	71	81	. .	10
Total	38,535	45,071	51,234	56,085	60,283	64,195
Net advances—						
States and Northern Territory	1,056	1,002	799	783	546	–40
Non-budget Commonwealth Authorities	183	–18	–16	–102	–122	–104
Other sectors	111	136	116	106	101	74
Total	1,349	1,120	899	788	525	–70
Asset Sales	. .	. .	. .	. .	. .	–1,000
Total outlay	*48,792*	*56,430*	*63,712*	*69,917*	*74,899*	*78,146*
Revenue—						
Taxation—						
Income tax on companies	5,107	4,940	6,034	6,702	7,888	9,025
Income tax on persons	22,967	24,710	29,300	32,734	38,074	41,160
Sales tax, Customs and Excise duties	12,399	14,294	16,507	18,273	18,922	20,077
Tax on Certain Bank Transactions	30	183	189	202	261	330
ACT taxes and charges	92	105	125	150	185	216
Other taxes, fees, fines, etc	169	208	266	339	357	435
Total	40,764	44,438	52,421	58,399	65,685	71,243
Non-taxation Revenue—						
Interest, rent, dividends, royalties, etc.	3,574	4,060	4,567	5,792	6,494	6,873
Miscellaneous income from Commonwealth enterprises	6	. .	4	. .	4	3
Total	3,580	4,060	4,571	5,792	6,498	6,876
Total revenue	*44,344*	*48,499*	*56,992*	*64,191*	*72,184*	*78,119*
Deficit	4,448	7,932	6,720	5,726	2,716	27

(a) Expenditure on new fixed assets *plus* increase in stocks *less* sales of previously rented houses. *(b)* The Commonwealth Non-Budget sector consists of enterprises which operate outside the Public Account. This includes both general government enterprises which largely depend on budget funding (e.g. ABC) and public trading enterprises which are largely self-financing (e.g. Telecom).

Financing of the Commonwealth Government deficit

The deficit shown in the last line of the preceding table represents the net excess of Budget outlay over revenue. In other words, the estimated deficit shown for 1987–88 represents the Commonwealth Government budget sector's 'financing requirements'. Most such transactions involve the issue, repurchase, redemption or acquisition of Commonwealth Government securities, but some involve or are represented by changes in other assets or liabilities of the Commonwealth Government.

Specifically the deficit is financed as follows:

Net sales of Commonwealth Government securities (new issues *less* redemptions *less* net purchases from Commonwealth Government balances in the Trust Fund);

less net purchases of other investments from Commonwealth Government balances in the Trust Fund;

plus minor items of indebtedness (such as borrowing by Australian Capital Territory housing trust account)

less net additions to cash balances, and funds provided for the International Monetary Fund and the Australian Wheat Board.

A table summarising the financial transactions of the Commonwealth Government budget sector for recent years is given on page 387, Table 1 in 1987–88 *Budget Paper* No. 1.

Commonwealth Non-Budget Enterprises

In addition to the group of Commonwealth Government enterprises whose transactions are covered by the Budget (i.e. itemised in the Consolidated Revenue Fund, the Loan Fund, or recorded in a Trust Fund), there are a number of organisations owned and/or controlled by the Commonwealth Government whose transactions do not, for the most part, pass through the Public Account. This category includes public trading enterprises such as the Australian Postal Commission, Australian Telecommunications Commission, Overseas Telecommunications Commission, Qantas Airways Ltd, Australian National Airlines Commission, the Australian Shipping Commission, the Snowy Mountains Hydro-Electric Authority, and public financial enterprises such as the Reserve Bank of Australia and the Commonwealth Bank of Australia. Public trading and financial enterprises, it should be noted, are bodies which aim at covering the bulk of their expenses by revenue either from sales of goods and services (trading enterprises), or by charges for services and net interest receipts (financial enterprises). As well as these enterprises, there are other government enterprises which record most of their transactions outside the Public Account but have only minor independent sources of revenue and are financed almost entirely from funds voted to them each year from the Consolidated Revenue Fund. In order that the national accounting presentation may indicate, as completely as possible, the direct effect of the Budget on demand, appropriations to this last group of enterprises are treated as final expenditure in the Budget. Enterprises in this category include the Australian Broadcasting Corporation, Australian National University and the Australian Nuclear Science and Technology Organisation.

The transactions of Commonwealth Government bodies not covered by the Budget may be brought together and consolidated with the transactions recorded in the Budget to yield figures of the transactions of all Commonwealth public sector enterprises which are owned and/or controlled by the Commonwealth Government. The remaining tables in this section have been prepared on that basis.

Public financial enterprises have been omitted from the consolidated accounts presented here largely on the ground that combining the income and outlay and capital financing transactions of the Reserve Bank, the publicly owned trading and savings banks, government insurance offices and other public financial institutions with the equivalent transactions of public trading enterprises and general government enterprises seems to provide a less meaningful account of public sector activity. For example, omission of the borrowing and lending activities of the government banks and the Reserve Bank allows attention to be centred on the borrowing and lending activities of general government and public trading enterprises, which are quite different in nature and economic effect from the financing activities of the banking system.

Coverage—Northern Territory Government

On 1 July 1978 the Northern Territory became self-governing with expenditure responsibilities and revenue raising powers broadly approximating those of a State. In public finance statistics the Northern Territory Government is grouped with State and local governments from 1978–79 onwards. This results in a discontinuity in time series for the financial transactions of Commonwealth Government enterprises because:

- In the period up to and including 1977–78 Commonwealth spending on State-type services in the Northern Territory is included under the various Commonwealth outlay categories such as final consumption expenditure and gross capital formation. Similarly, State-type taxation and income from the Northern Territory public trading enterprises is included in the respective Commonwealth revenue categories.
- From 1978–79 onwards, Commonwealth spending in respect of the Northern Territory consists to a large extent of grants and advances to Northern Territory general government enterprises while State-type taxation and income from the Northern Territory public trading enterprises are no longer part of Commonwealth revenue.
- Not all State-type functions were fully transferred to the Northern Territory Government from 1 July 1978. Responsibility for health services was transferred on 1 January 1979 and responsibility for education services was transferred from 1 July 1979. The Commonwealth retains responsibility for certain State-type matters such as uranium mining and Aboriginal affairs (other than provision of services to Aboriginal communities).

Summary of outlay, revenue and net public sector borrowing requirement

The outlay and revenue, and net financing requirement, of all non-financial enterprises of the Commonwealth Government for the six-year period ending 1986–87 are given in the following table.

OUTLAYS, REVENUE AND DEFICIT OF COMMONWEALTH GOVERNMENT
($ million)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87p*
Current outlays	38,402.3	44,990.0	52,341.1	59,458.0	65,601.4	71,161.3
General government final consumption expenditure	8,530.8	9,838.4	11,344.3	12,790.6	14,376.9	15,717.6
Requited current transfer payments *(a)*	3,235.9	3,686.2	4,686.9	6,093.2	7,642.2	8,754.1
Unrequited current transfer payments	26,635.7	31,465.4	36,309.8	40,574.2	43,582.3	46,689.7
Subsidies paid to enterprises	1,207.5	1,313.0	1,458.7	1,708.0	1,673.8	1,352.1
Personal benefit payments	12,879.4	15,668.6	18,404.8	20,659.4	22,356.3	24,101.3
Current grants	12,548.7	14,483.8	16,446.3	18,206.8	19,552.3	21,236.3
to non-profit institutions	480.5	615.2	726.4	881.8	974.9	1,107.4
to foreign governments and organisations	665.2	735.9	772.5	860.5	855.1	824.4
to the States and Northern Territory	11,384.3	13,108.5	14,914.7	16,407.6	17,629.0	19,218.4
to local governments (direct)	18.7	24.3	32.8	57.0	93.3	86.1
Other current transfer payments	—	—	—	—	—	—
Capital outlays	5,105.8	6,000.3	7,135.4	7,292.4	8,363.0	8,489.7
Gross fixed capital expenditure	1,872.8	2,046.3	2,433.7	2,820.2	3,946.8	4,629.7
Expenditure on new fixed assets	1,919.2	2,127.0	2,457.0	3,116.2	4,313.6	4,902.5
Expenditure on secondhand fixed assets (net)	–46.4	–80.7	–23.4	–296.0	–366.8	–272.8
Increase in stocks	274.2	294.4	200.4	–83.6	–3.3	–465.6
Expenditure on land and intangible assets (net)	–12.6	–34.3	–35.2	–90.9	–60.5	–54.4
Capital transfer payments	2,005.0	2,504.5	3,180.8	3,621.8	3,638.2	3,621.2
Capital grants	2,005.0	2,504.5	3,180.8	3,621.8	3,638.2	3,621.2
to the States and Northern Territory	1,770.2	2,210.4	2,792.6	3,167.9	3,254.8	3,261.8
to Local governments (direct)	7.4	20.1	20.9	18.8	16.7	13.2
to other sectors	227.3	273.9	367.2	435.0	366.8	346.3
Other capital transfer payments	—	—	—	—	—	—
Advances paid (net)	966.4	1,189.4	1,355.8	1,025.0	841.7	758.7
to the States, Northern Territory and local governments	865.3	1,055.8	995.8	790.7	786.2	546.4
to other sectors	101.1	133.7	360.1	234.3	55.5	212.3
Revenue	41,524.5	44,992.5	49,583.4	58,682.5	65,860.3	74,197.0
Taxes, fees and fines	37,941.8	41,012.2	44,779.4	52,898.7	58,736.4	66,125.2
Income taxes levied on individuals	21,205.0	22,942.6	24,691.5	29,288.6	32,713.8	38,061.7
Income taxes levied on enterprises and non-residents	5,257.7	5,102.8	4,930.9	6,020.3	6,675.0	7,337.7
Other taxes, fees and fines	11,479.1	12,966.9	15,156.9	17,589.8	19,347.8	20,725.7
Net operating surpluses of public trading enterprises	1,063.5	918.7	1,400.3	1,885.2	2,055.4	2,201.0
Property income and other revenue	2,519.3	3,061.6	3,403.7	3,898.6	5,068.4	5,870.8
Financing transactions	1,982.3	5,997.8	9,893.1	8,067.9	8,104.0	5,454.0
Increase in provisions	828.3	995.4	1,299.3	970.4	1,340.6	1,654.6
Net financing requirement	1,154.0	5,002.4	8,593.8	7,097.5	6,763.4	3,799.4

(a) Interest, land rent, royalties and dividends paid.

Grants and advances to the States and the Northern Territory.

Commonwealth Government financial assistance to the States and the Northern Territory takes two main forms: (i) grants for general and specific purposes, and (ii) assistance for developmental and other specific purposes in the form of repayable advances. Some information about these forms of financial assistance is given below, but for more complete information reference should be made to the Commonwealth Government Budget Paper No. 4 *Commonwealth Financial Relations with Other Levels of Government.* Further information also appears in chapters of this *Year Book* dealing with the specific function which the payments are designed to serve.

Grants to the States and the Northern Territory

The following table shows details of grants to the States and the Northern Territory classified by purpose.

GRANTS TO STATES AND NORTHERN TERRITORY BY GOVERNMENT PURPOSE CLASSIFICATION AND STATE, 1986–87
($ million)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Total*
Current grants	*6,030.6*	*4,556.1*	*3,214.2*	*1,953.6*	*2,041.8*	*689.3*	*732.7*	*19,218.4*
General public services, defence, public order and safety	7.3	20.1	12.6	9.4	7.6	0.3	6.8	64.0
Education	1,211.8	1,061.9	549.8	317.0	338.9	94.1	24.3	3,597.6
Primary and secondary education	495.9	414.6	225.3	108.4	122.4	35.0	13.0	1,414.7
Tertiary education	714.6	645.6	323.6	206.0	213.6	59.0	11.2	2,173.4
University education	443.9	308.2	168.7	109.0	96.8	41.3	—	1,167.9
Other higher education	207.9	295.8	130.1	81.5	100.2	12.6	8.8	836.8
Technical and further education	62.8	41.6	24.7	15.4	16.6	5.2	2.5	168.7
Preschool education and education not definable by level	1.3	1.7	0.9	2.6	2.9	0.1	—	9.5
Other education not definable by level	1.3	1.7	0.9	2.6	2.9	0.1	—	9.5
Health	428.9	277.3	91.5	123.1	106.1	37.7	13.1	1,077.7
Hospitals and other institutional services and benefits	414.9	266.8	78.6	117.3	93.0	35.0	12.4	1,018.0
Clinic and other non-institutional services and benefits	5.8	5.0	5.3	2.9	4.1	2.1	0.2	25.4
Public health	8.2	5.5	7.6	2.8	9.0	0.6	0.5	34.3
Social security and welfare	65.2	53.9	21.5	26.5	21.3	7.5	4.0	199.8
Social security	1.0	—	—	—	2.0	1.7	—	4.7
Welfare services	55.7	47.5	17.6	24.3	17.1	5.2	3.7	171.0
Family and child welfare	3.8	3.3	1.2	8.0	1.3	0.3	1.3	19.2
Aged and handicapped welfare	39.4	32.2	9.2	10.9	10.4	2.6	0.6	105.3
Welfare services n.e.c.	12.6	12.0	7.2	5.4	5.4	2.2	1.8	46.5
Social security and welfare n.e.c.	8.5	6.4	4.0	2.1	2.2	0.7	0.2	24.1
Housing and community amenities	1.2	2.2	0.4	1.8	2.1	2.3	0.6	10.6
Housing and community development	—	1.3	0.4	1.8	1.9	0.3	0.5	6.2
Housing	1.8	1.3	0.4	1.2	0.6	0.3	—	5.7
Community development	−1.9	—	—	0.6	1.3	—	0.5	0.5
Community amenities	1.2	0.8	—	—	0.2	2.0	0.1	4.4
Recreation and culture	—	—	—	—	6.0	—	—	6.0
Fuel and energy	13.9	—	5.1	—	0.7	0.1	33.9	53.7
Agriculture, forestry, fishing and hunting	21.2	25.8	55.0	20.7	18.6	1.1	9.8	152.3
Agriculture	21.2	25.8	55.0	20.7	18.6	1.1	9.8	152.3
Agricultural land management	11.4	12.9	24.3	6.6	6.9	0.9	9.5	72.5
Agricultural water resources management	0.3	2.3	—	0.8	—	—	—	3.3
Other agriculture	9.5	10.6	30.7	13.3	11.8	0.2	0.3	76.4
Mining, manufacturing and construction	0.1	—	0.8	—	—	0.1	—	1.0
Transport and communications	0.6	0.3	0.2	0.2	0.1	0.2	0.1	1.8
Road transport	0.6	0.3	0.2	0.2	0.1	—	0.1	1.4
Other transport and communications	—	—	—	—	—	0.2	0.1	0.4
Other economic affairs	72.4	48.4	33.2	18.5	19.1	5.6	3.7	200.9
Other purposes	4,208.1	3,066.3	2,444.1	1,436.4	1,521.3	540.2	636.4	13,852.8
General purpose inter-government transactions	4,205.1	3,066.3	2,437.7	1,436.4	1,521.3	540.2	636.4	13,843.4
Natural disaster relief	2.9	—	6.5	—	—	—	—	9.4

GRANTS TO STATES AND NORTHERN TERRITORY BY GOVERNMENT PURPOSE CLASSIFICATION AND STATE, 1986–87—*continued*

($ million)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Total*
Capital grants	*1,012.4*	*698.8*	*556.8*	*326.2*	*334.9*	*163.1*	*169.5*	*3,261.7*
Education	194.1	147.1	85.0	54.2	56.9	17.2	7.9	562.5
Primary and secondary education	68.2	52.6	31.7	21.8	17.5	5.4	5.3	202.5
Tertiary education	126.1	94.5	52.7	32.3	39.3	11.8	2.0	358.7
University education	38.5	23.1	15.4	8.1	11.4	6.4	—	103.0
Other higher education	27.4	26.6	11.0	7.6	13.5	0.7	0.2	86.9
Technical and further education	60.2	44.8	26.3	16.6	14.4	4.8	1.8	168.8
Preschool education and education not definable by level	–0.1	—	0.5	0.1	0.1	—	0.6	1.3
Other education not definable by level	–0.1	—	0.5	0.1	0.1	—	0.6	1.3
Health	16.7	13.4	7.9	4.5	4.7	7.2	1.0	55.5
Hospitals and other institutional services and benefits	16.3	12.7	7.7	4.2	4.3	7.1	1.0	53.2
Clinic and other non-institutional services and benefits	0.4	0.7	0.1	0.3	0.5	0.1	—	2.1
Public health	—	—	0.1	—	—	—	—	0.2
Social security and welfare	5.8	11.2	8.6	1.7	3.8	1.5	0.5	33.1
Welfare services	5.8	11.2	8.6	1.7	3.8	1.5	0.5	33.1
Family and child welfare	4.8	6.0	4.2	1.6	2.5	1.2	0.5	20.8
Aged and handicapped welfare	1.0	5.2	4.4	—	1.3	0.4	—	12.3
Welfare services n.e.c.	—	—	—	—	—	—	—	—
Housing and community amenities	207.3	157.4	97.7	107.8	71.0	26.6	31.5	699.4
Housing and community development	215.8	155.2	96.3	71.3	70.4	26.6	31.0	666.7
Housing	212.8	155.2	96.3	70.2	63.4	26.6	31.0	655.6
Community development	3.0	—	—	1.1	7.0	—	—	11.1
Community amenities	–8.5	2.2	1.4	36.5	0.6	0.1	0.5	32.7
Recreation and culture	27.9	5.8	6.1	1.2	3.2	2.4	1.1	47.8
Fuel and energy	—	—	—	—	—	26.5	40.6	67.1
Agriculture, forestry, fishing and hunting	2.3	0.9	34.5	—	1.2	—	—	38.8
Agriculture	2.3	0.9	34.5	—	1.2	—	—	38.8
Agricultural water resources management	2.3	0.9	34.0	—	1.2	—	—	38.4
Other agriculture	—	—	0.5	—	—	—	—	0.5
Forestry, fishing and hunting	—	—	—	—	—	—	—	—
Mining, manufacturing and construction	—	1.5	—	—	—	—	—	1.5
Transport and communications	412.3	253.7	257.3	96.9	154.3	48.1	39.8	1,262.4
Road transport	396.3	253.7	257.3	96.9	154.3	48.1	39.8	1,246.4
Water transport	16.0	—	—	—	—	—	—	16.0
Other transport and communications	—	—	—	—	—	—	—	—
Other economic affairs	7.1	—	—	3.9	—	—	—	11.0
Other purposes	138.8	107.9	59.7	56.0	39.7	33.4	47.1	482.6
General purpose inter-government transactions	138.8	107.9	56.9	56.0	39.7	33.4	47.1	479.8
Natural disaster relief	—	—	2.7	—	—	—	—	2.7
Total current and capital grants	**7,043.0**	**5,255.0**	**3,771.1**	**2,279.8**	**2,376.6**	**852.4**	**902.2**	**22,480.1**

Advances to the States and the Northern Territory

The Commonwealth provides financial assistance for State projects by way of repayable advances. Borrowings of the Loan Council which are advanced to the States for their work programs and advances for State housing projects represent the largest proportion of the total funds advanced. Full descriptions of the various programs for which funds have been advanced in recent years are given in *Commonwealth Financial Relations with Other Levels of Government.*

The following table shows figures of net advances to the States and Northern Territory by purpose.

NET ADVANCES TO STATES AND THE NORTHERN TERRITORY BY GOVERNMENT PURPOSE CLASSIFICATION, 1986–87
($ million)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Total*
Net advances	*148.1*	*117.0*	*73.4*	*65.9*	*30.1*	*36.5*	*75.4*	*546.4*
Defence	1.1	0.1	–0.1	—	—	—	—	1.1
Social security and welfare	—	—	—	—	—	—	—	—
Housing and community amenities	132.2	100.3	56.5	96.1	61.3	29.7	49.5	525.7
Housing and community development	132.6	100.7	56.7	92.2	62.4	29.8	49.6	524.1
Housing	132.7	101.7	56.7	92.2	66.4	29.8	49.6	529.2
Community development	–0.1	–0.9	—	—	–4.0	—	—	–5.1
Water supply	—	—	—	4.0	–0.8	—	—	3.2
Sanitation and protection of the environment	–0.5	–0.5	–0.1	–0.1	–0.2	–0.1	–0.1	–1.6
Recreation and culture	—	—	—	—	–0.2	—	—	–0.2
Fuel and energy	–0.4	—	–3.4	—	—	—	–2.1	–5.9
Agriculture, forestry, fishing and hunting	–6.5	–4.5	–5.3	–2.3	–2.5	–0.5	0.3	–21.3
Agriculture	–5.9	–4.3	–4.8	–2.2	–2.3	–0.3	0.3	–19.4
Agricultural land management	—	—	–0.7	—	—	—	—	–0.7
Agricultural water resources management	–1.7	–0.7	—	–0.5	—	—	—	–2.9
Agricultural support schemes	–4.2	–3.6	–4.1	–1.7	–2.3	–0.3	–0.1	–16.3
Other agriculture	—	—	—	—	—	—	0.4	0.5
Forestry, fishing and hunting	–0.6	–0.2	–0.5	–0.1	–0.2	–0.2	—	–1.9
Mining, manufacturing and construction	–0.4	—	—	—	—	—	—	–0.4
Manufacturing	–0.4	—	—	—	—	—	—	–0.4
Transport and communications	–1.7	–0.7	–0.9	—	–3.4	—	—	–6.7
Water transport	—	—	–0.1	—	—	—	—	–0.2
Rail transport	–1.7	–0.7	–0.8	—	–3.4	—	—	–6.5
Other purposes	23.8	22.0	26.4	–27.9	–25.2	7.3	27.7	54.1
Public debt transactions	—	—	—	—	—	—	–6.3	–6.3
General purpose inter-government transactions	31.1	25.7	12.9	–22.9	–18.3	7.4	34.0	69.9
Natural disaster relief	–7.3	–3.7	13.5	–5.0	–7.0	–0.1	—	–9.5

NOTE: Minus sign (–) denotes excess of repayments.

Main Sources of Finance

The main sources of Commonwealth Government finance are taxation, income of public trading and financial enterprises, other factor income transfers, borrowing, and other financing transactions. Taxation constitutes by far the major source of revenue. In recent years, however, borrowing has become an increasingly significant source of funds.

In what follows, an account is given of the system of Commonwealth Government taxation, and some details are given of the current operations of Commonwealth public enterprises. Borrowings and other financing activities of Commonwealth enterprises are dealt with for convenience in a later section relating to the debt of all public sector enterprises.

Commonwealth Government taxation—summary

The following table shows Commonwealth Government taxation revenue classified by type of tax for the six years ending 1986–87.

COMMONWEALTH GOVERNMENT—TAXES, FEES AND FINES BY TYPE
($ million)

Type of tax	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
Taxes, fees and fines	41,012.2	44,779.4	52,898.7	58,736.4	66,111.0	74,683.7
Taxes on income	28,045.3	29,622.4	35,308.9	39,388.7	45,385.6	51,283.1
Income taxes levied on individuals	22,942.6	24,691.5	29,288.6	32,713.8	38,061.7	41,876.5
Personal income tax	22,941.6	24,690.5	29,287.4	32,712.5	38,060.7	41,875.1
Income taxes levied on enterprises	4,688.8	4,464.7	5,422.6	5,964.4	6,510.8	8,588.4
Company income tax *(a)*	4,663.6	4,443.6	5,408.4	5,942.4	6,497.7	8,577.6
Income tax paid by superannuation funds	25.2	21.2	14.2	22.0	13.1	10.7
Income taxes levied on non-residents	414.0	466.2	597.7	710.6	813.1	818.3
Dividend withholding tax	133.8	129.6	154.8	209.3	171.8	124.5
Interest withholding tax	124.1	174.7	247.9	351.3	466.4	540.8
Other income tax levied on non-residents	156.0	162.0	195.0	150.0	175.0	153.0
Employers' payroll taxes	35.3	39.3	50.8	55.6	569.6	918.5
General taxes (payroll tax)	17.8	20.0	23.8	28.8	33.9	40.8
Selective taxes (stevedoring industry charges)	17.5	19.3	26.9	26.8	24.0	25.9
Fringe benefits tax	—	—	—	—	511.7	851.9
Taxes on property	67.6	227.9	239.5	260.6	341.8	458.3
Taxes on immovable property	24.5	24.5	28.1	31.1	36.9	52.4
Estate, inheritance and gift duties	1.6	3.5	0.7	0.4	0.6	0.5
Taxes on financial and capital transactions	41.5	200.0	210.8	229.1	304.3	405.3
Stamp duties	12.0	17.3	21.3	27.0	39.7	60.8
Financial institutions' transaction taxes	29.6	182.7	189.5	202.1	260.8	335.7
Government borrowing guarantee levies	—	—	—	—	3.7	8.8
Taxes on provision of goods and services	12,677.1	14,678.9	17,032.6	18,718.7	19,472.3	21,607.2
General taxes (sales tax)	3,490.1	4,164.8	4,966.1	5,728.3	6,348.2	7,561.5
Excises	7,067.5	8,084.2	9,056.1	9,604.6	9,768.8	10,284.3
Excises on crude oil and LPG	3,486.0	3,664.5	4,241.8	4,065.8	2,105.5	2,079.4
Other Excise Act duties	3,320.1	4,081.7	4,351.6	5,186.1	7,221.9	7,596.4
Agricultural production taxes	261.4	338.0	462.7	352.7	441.4	608.6
Taxes on international trade	2,104.3	2,397.9	2,995.4	3,357.9	3,313.5	3,710.6
Customs duties on imports	2,035.6	2,329.0	2,926.6	3,281.9	3,236.8	3,632.1
Customs duties on exports	66.6	66.6	60.3	57.7	54.6	54.9
Agricultural produce export taxes	2.1	2.3	8.6	18.3	22.0	23.6
Taxes on gambling	7.3	6.1	9.0	9.0	12.1	13.7
Taxes on insurance	7.9	26.0	6.0	18.9	29.7	37.0
Taxes on use of goods and performance of activities	100.6	113.9	131.7	151.4	172.6	203.9
Motor vehicle taxes	13.6	16.7	19.3	21.2	23.7	30.3
Franchise taxes	3.5	4.3	5.0	9.9	14.4	20.6
Other taxes on use of goods etc.	83.4	92.9	107.4	120.2	134.6	153.0
Broadcast and TV station licences	40.4	48.4	58.8	68.8	76.8	85.9
Departure tax	41.7	43.2	46.9	50.1	56.3	65.5
Other taxes on use of goods etc. n.e.i.	1.3	1.3	1.7	1.2	1.5	1.6
Fees and fines	86.3	96.9	135.2	161.5	169.1	212.7
Compulsory fees	78.4	87.2	127.4	154.0	160.5	199.7
Tertiary education charges	—	—	—	—	3.6	3.4
Fines	7.9	9.6	7.9	7.5	8.6	13.0

(a) Excludes income taxes paid by public trading enterprises.

Taxes on income

A description of the development of income taxes in Australia appeared in *Year Book* No. 35, page 926. With the advent of Uniform Taxation in 1942, the States withdrew from the income tax field. While the Commonwealth remains the sole government imposing taxes on income, tax sharing arrangements have been made under which State and local government bodies receive a share of Commonwealth revenue.

The laws dealing with the assessment, declaration and imposition of income tax at 30 June 1988 were:

- *Income Tax Assessment Act 1936* (later referred to as 'the Assessment Act')
- *Income Tax Rates Act 1986* (as amended by the *Income Tax Rates Amendment Act 1987*)
- *Income Tax Act 1986*
- *Income Tax (Dividends and Interest Withholding Tax) Act 1974*
- *Income Tax (Drought Bonds) Act 1969*
- *Income Tax (Withholding Tax Recoupment) Act 1971*
- *Income Tax (Bearer Debentures) Act 1971*
- *Income Tax (Film Royalties) Act 1977*
- *Income Tax (Mining Withholding Tax) Act 1979*
- *Income Tax (Diverted Income) Act 1981*
- *Income Tax (Securities and Agreements) (Withholding Tax Recoupment) Act 1986*
- *Income Tax (Franking Deficit) Act 1987*
- *Income Tax (Offshore Banking Units) (Withholding Tax Recoupment) Act 1988*

Both individuals and companies are liable for income tax. Private companies were subject to tax on certain undistributed income in addition to the primary income tax levied on all companies. Subject to phasing-out arrangements, however, this additional tax generally does not apply in relation to profits of the 1986–87 and latter income years.

The operation of the Assessment Act is affected by other Acts, the more important of which are:

(a) *Taxation Administration Act 1953*, which provides for the administration of certain Acts relating to taxation and the screening for taxation purposes of applications for exchange control approval.

(b) *Income Tax (International Agreements) Act 1953*, which gives the force of law to agreements with other countries for the avoidance of double taxation. Australia has concluded comprehensive agreements for the avoidance of double taxation with the United Kingdom, the United States of America, Canada, New Zealand, Singapore, Japan, the Federal Republic of Germany, the Netherlands, France, Belgium, the Philippines, Switzerland, Malaysia, Sweden, Denmark, Ireland, Norway, the Republic of Korea, Malta, Italy and Finland. In addition, as at 30 June 1985, a comprehensive agreement with Austria had been signed but had not entered into force. Limited agreements dealing with airline profits have been concluded with France, Italy, Greece, India and the People's Republic of China.

(c) *Taxation (Unpaid Company Tax) Assessment Act 1982* and related legislation.

(d) The *States (Tax Sharing and Health Grants) Act 1981*, which provides for the States and Northern Territory to receive a proportion of total Commonwealth tax collections.

(e) *Income Tax (Arrangements with the States) Act 1978*, which enables each State to increase or reduce personal income tax levied on residents of the State.

(f) *International Organizations (Privileges and Immunities) Act 1963*, and Regulations made under that Act, which provide for the exemption from income tax of certain income of international organisations and their officials.

(g) *Diplomatic Privileges and Immunities Act 1967*, which provides for the exemption from income tax of certain income of diplomatic representatives, their staff and families.

(h) *Consular Privileges and Immunities Act 1972*, which provides for the exemption from tax of certain income of consular representatives, their staff and families.

(i) The *Loan (Income Equalization Deposits) Act 1976*, which provides for the making of interest bearing income equalization deposits by primary producers with the Commissioner of Taxation.

(j) *Taxation (Interest on Overpayments) Act 1983*, which provides for the payment of interest on certain refunds of tax.

(k) *Taxation (Interest on Underpayments) Act 1986*, which imposes an interest charge in respect of underpayment of income tax.

(l) *Loan (Drought Bonds) Act 1969*, which authorizes the issue of drought bonds and empowers the Commissioner of Taxation to declare when drought bonds have become redeemable.

(m) *Banking Act 1959* and Regulations, under which certain exchange control applications are screened to prevent avoidance and evasion of Australian taxes.

(n) The *Crimes (Taxation Offences) Act 1980*, which established a number of criminal offences relating to the fraudulent evasion of income tax (and sales tax) by stripping companies or trusts of their capacity to pay.

(o) *Medicare Levy Act 1986*, which imposes medicare levy on certain individuals subject to assessment of the levy in accordance with the Assessment Act.

(p) *Local Government (Personal Income Tax Sharing) Act 1976*, which provides for local government bodies in the States to receive a specified proportion of net personal income tax collections.

(q) *Industry Research and Development Act 1986*, which affects eligibility for the 150 per cent research and development concession.

(r) *Fringe Benefits Tax Act 1986* and related legislation which impose a tax on employers in respect of certain benefits provided to employees.

More detailed information on taxation can be obtained from the Australian Taxation Office's reports and papers.

COMMONWEALTH INCOME TAX PAYABLE ON SPECIFIED RESIDENT INDIVIDUAL INCOMES

($)

Taxable income (a)	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
TAXPAYER WITH NO DEPENDANTS						
5,000	165.00	121.50	108.01	101.25	26.86	. .
7,000	778.40	721.50	641.41	601.25	515.26	456.00
10,000	1,698.50	1,621.50	1,441.51	1,351.25	1,247.86	1,176.00
15,000	3,232.00	3,121.50	2,858.26	2,726.25	2,590.94	2,496.00
20,000	4,916.99	4,701.50	4,438.26	4,306.25	4,136.09	4,001.00
TAXPAYER WITH DEPENDENT SPOUSE						
5,000	. .	. .	. .	. .	. .	. .
7,000	. .	. .	. .	. .	. .	. .
10,000	868.50	791.50	611.51	521.25	417.86	346.00
15,000	2,402.00	2,291.50	2,028.26	1,896.25	1,760.94	1,666.00
20,000	4,086.99	3,871.50	3,608.26	3,476.25	3,306.09	3,171.00

(*a*) Income remaining after allowing all deductions.

Income tax assessments—individuals

The following tables show the number of taxpayers, taxable income, and net income tax assessed for individuals.

COMMONWEALTH INCOME TAX ASSESSMENTS (a): TAXABLE INDIVIDUALS BY GRADE OF TAXABLE INCOME

(Income derived in the year 1985–86)

	Number of taxpayers					
Grade of taxable income	*Males*	*Females*	*Total*	*Net income*	*Taxable income*	*Net tax*
$				$'000	$'000	$'000
Under 4,596	17,035	13,088	30,123	74,619	66,232	10,375
4,596– 4,999	26,242	46,943	73,185	369,935	351,091	5,084
	43,277	*60,031*	*103,308*	*444,554*	*417,323*	*15,459*
5,000– 5,999	105,206	169,167	274,373	1,589,382	1,532,402	51,224
	148,483	*229,198*	*377,681*	*2,033,936*	*1,949,725*	*66,683*
6,000– 6,999	140,506	223,218	363,724	2,431,254	2,358,952	148,880
	288,989	*452,416*	*741,405*	*4,465,190*	*4,308,677*	*215,563*
7,000– 7,999	125,247	179,330	304,577	2,360,077	2,281,114	215,215
	414,236	*631,746*	*1,045,982*	*6,825,267*	*6,589,791*	*430,778*
8,000– 8,999	120,966	162,430	283,396	2,494,261	2,407,337	277,283
	535,202	*794,176*	*1,329,378*	*9,319,528*	*8,997,128*	*708,061*
9,000– 9,999	119,472	151,679	271,151	2,668,320	2,575,294	328,965
	654,674	*945,855*	*1,600,529*	*11,987,848*	*11,572,422*	*1,037,026*
10,000–10,999	119,359	146,279	265,638	2,887,550	2,788,330	389,504
	774,033	*1,092,134*	*1,866,167*	*14,875,398*	*14,360,752*	*1,426,530*
11,000–11,999	120,126	140,915	261,041	3,108,654	3,001,824	449,342
	894,159	*1,233,049*	*2,127,208*	*17,984,052*	*17,362,576*	*1,875,872*
12,000–12,999	123,170	144,596	267,766	3,463,914	3,346,842	531,647
	1,017,329	*1,377,645*	*2,394,974*	*21,447,966*	*20,709,418*	*2,407,519*
13,000–13,999	129,658	144,827	274,485	3,836,989	3,706,983	626,860
	1,146,987	*1,522,472*	*2,669,459*	*25,284,955*	*24,416,401*	*3,034,379*
14,000–14,999	145,015	155,101	300,116	4,502,316	4,354,285	776,538
	1,292,002	*1,677,573*	*2,969,575*	*29,787,271*	*28,770,686*	*3,810,917*
15,000–15,999	165,243	152,506	317,749	5,088,372	4,925,199	916,407
	1,457,245	*1,830,079*	*3,287,324*	*34,875,643*	*33,695,885*	*4,727,324*
16,000–16,999	174,948	141,584	316,532	5,395,539	5,222,279	1,006,418
	1,632,193	*1,971,663*	*3,603,856*	*40,271,182*	*38,918,164*	*5,733,742*
17,000–17,999	181,674	129,138	310,812	5,622,992	5,438,118	1,079,941
	1,813,867	*2,100,801*	*3,914,668*	*45,894,174*	*44,356,282*	*6,813,683*
18,000–18,999	187,905	112,909	300,814	5,755,542	5,563,299	1,134,261
	2,001,772	*2,213,710*	*4,215,482*	*51,649,716*	*49,919,581*	*7,947,944*
19,000–19,999	190,188	102,327	292,515	5,897,315	5,701,667	1,196,029
	2,191,960	*2,316,037*	*4,507,997*	*57,547,031*	*55,621,248*	*9,143,973*
20,000–21,999	344,323	146,917	491,240	10,656,196	10,298,787	2,313,864
	2,536,283	*2,462,954*	*4,999,237*	*68,203,227*	*65,920,035*	*11,457,837*
22,000–23,999	291,985	102,797	394,782	9,390,043	9,066,457	2,213,338

COMMONWEALTH INCOME TAX ASSESSMENTS (a): TAXABLE INDIVIDUALS BY GRADE OF TAXABLE INCOME—*continued*

(Income derived in the year 1985–86)

	Number of taxpayers					
Grade of taxable income	*Males*	*Females*	*Total*	*Net income*	*Taxable income*	*Net tax*
$				$'000	$'000	$'000
	2,828,268	*2,565,751*	*5,394,019*	*77,593,270*	*74,986,492*	*13,671,175*
24,000–25,999	248,181	79,659	327,840	8,474,095	8,183,944	2,136,635
	3,076,449	*2,645,410*	*5,721,859*	*86,067,365*	*83,170,436*	*15,807,810*
26,000–27,999	208,650	57,637	266,287	7,437,860	7,183,863	1,981,453
	3,285,099	*2,703,047*	*5,988,146*	*93,505,225*	*90,354,299*	*17,789,263*
28,000–29,999	171,043	41,790	212,833	6,375,300	6,160,747	1,779,708
	3,456,142	*2,744,837*	*6,200,979*	*99,880,525*	*96,515,046*	*19,568,971*
30,000–34,999	287,131	51,983	345,114	11,524,330	11,139,681	3,434,522
	3,743,273	*2,802,820*	*6,546,093*	*111,404,855*	*107,654,727*	*23,003,493*
35,000–39,999	155,156	30,121	185,277	7,110,321	6,873,058	2,310,519
	3,898,429	*2,832,941*	*6,731,370*	*118,515,176*	*114,527,785*	*25,314,012*
40,000–49,999	117,946	18,068	136,014	6,206,101	5,981,504	2,250,070
	4,016,375	*2,851,009*	*6,867,384*	*124,721,277*	*120,509,289*	*27,564,082*
50,000–99,999	72,591	14,028	86,619	5,684,816	5,475,260	2,424,799
	4,088,966	*2,865,037*	*6,954,003*	*130,406,093*	*125,984,549*	*29,988,881*
100,000 and over	9,606	2,465	12,071	1,995,713	1,934,785	1,042,371
Total	**4,098,572**	**2,867,502**	**6,966,074**	**132,401,807**	**127,919,331**	**31,031,251**

(a) Excludes trustee and manual assessements.

The previous table excludes details of assessments raised to trustees. However, the following table includes all 1985–86 income year assessments issued during the period 1 July 1986 to 30 June 1987.

COMMONWEALTH INCOME TAX ASSESSMENTS: TAXABLE INDIVIDUALS BY STATE OR TERRITORY OF RESIDENCE

(Income derived in the year 1985–86)

State	*Number*	*Taxable income*	*Net tax*
		$'000	$'000
New South Wales	2,336,084	44,012,161	11,012,480
Victoria	1,950,569	35,971,763	8,866,089
Queensland	1,031,877	18,034,874	4,172,456
Western Australia	646,794	11,807,350	2,840,334
South Australia	622,575	10,750,471	2,502,890
Tasmania	190,344	3,357,623	785,020
Northern Territory	53,162	1,111,012	266,260
Australian Capital Territory	181,933	3,727,704	981,794
Australia	**7,013,338**	**128,772,959**	**31,427,322**

Yield of income taxes

Income taxes collected

The following table shows the net amounts of taxes collected and the proportions of the several components over recent years.

COMMONWEALTH INCOME TAXES COLLECTED

Source of income tax	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
NET AMOUNTS COLLECTED ($'000)						
Individuals—						
Instalments—salaries and wages	18,840,314	19,940,085	23,424,083	26,324,401	29,526,429	32,677,444
Other payments	4,126,459	4,521,096	5,465,869	5,895,139	7,781,993	8,250,684
Companies	4,828,547	4,563,382	5,564,476	6,111,311	6,714,103	8,800,596
Withholding tax	258,985	305,168	403,912	561,815	639,075	666,658
Prescribed payments system	. .	250,513	411,640	514,884	765,359	957,698
Fringe benefits tax	. .	. .	. .	. .	534,859	880,581
Total	**28,054,305**	**29,580,245**	**35,269,980**	**39,407,550**	**45,961,818**	**52,233,661**
PERCENTAGES						
Individuals—						
Instalments—salaries and wages	67.16	67.41	66.41	66.80	64.24	62.56
Other payments	14.71	15.28	15.50	14.96	16.93	15.80
Companies	17.21	15.43	15.78	15.51	14.61	16.85
Withholding tax	0.92	1.03	1.14	1.42	1.39	1.28
Prescribed payments system	. .	0.85	1.17	1.31	1.67	1.83
Fringe benefits tax	. .	. .	. .	. .	1.16	1.68
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

State Governments

The State government enterprises dealt with in this section include the central government of each State, statutory bodies created by or under State legislation to carry out activities on behalf of the central government, and incorporated organisations in which individual State governments have a controlling interest.

The transactions of many of the State government enterprises are itemised in State Consolidated Revenue Funds or in Trust Funds, so that a satisfactory coverage of their transactions can be obtained from a detailed analysis and reclassification of the published accounts whose receipts and payments are summarised in the Statement of Treasury balances for each State. The remaining statutory bodies and other publicly owned or controlled organisations maintain accounts entirely, or largely, separate from the public accounts, although there may be transactions between them and State governments (such as advances and capital contributions, interest and dividends, and votes for running expenses and capital works) which would affect the public accounts. The accounting reports of this group of organisations have to be collected and analysed in order to present a complete statement of the transactions of State government enterprises—or at least methods of analysis need to be adopted which adequately reflect their transactions so that they are in principal, covered by the statistics.

In the figures which follow in this section, all expenditure by State central government enterprises on certain institutions, whether direct (e.g. new building charged to Loan Fund) or indirect by way of current or capital grants to the bodies administering them, has been treated as final expenditure on goods and services by State government; fees and gifts from persons or private businesses to these institutions are not included, nor is the expenditure of the institutions from their own resources. Universities and hospitals are particular examples of organisations for which this practice has been adopted.

Many of these State government enterprises have been granted autonomy by State legislatures to the extent that they are largely financially independent. Some of these are funded from earmarked tax revenues and are vested with independent borrowing powers. A considerable number of others belong to the category of public trading enterprises, since they are able to charge for their services so as to cover their costs of operation. These bodies have usually been created to control a specific activity or provide a specific service within a State. It is often the case that in other States similar activities are carried out, or services are provided, by central government or local governments. Details of the activities of autonomous or semi-autonomous State government enterprises engaged in such fields as construction and maintenance of roads and bridges, provision of water supply and sewerage services, harbour facilities, transport, electricity and gas, housing and banking may be found in chapters relevant to those subjects and in State *Year Books*.

Details of the transactions of State governments are given in the tables which follow and in *State and Local Government Finance, Australia* (5504.0). Additional information relating to the activities of the State governments may also be found in the *Year Books* of the individual States.

Outlay, revenue, grants received, and deficit

The outlay, revenue, grants received and deficit of State governments for the six year period ended 1986–87 are given in the following table.

OUTLAYS, REVENUE AND GRANTS RECEIVED, AND DEFICIT OF STATE GOVERNMENTS
($ million)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Current outlays	21,507	25,200	28,257	31,750	35,541	39,113
General government final consumption expenditure	14,822	16,665	18,480	20,629	22,773	24,933
Requited current transfer payments	3,392	4,379	5,045	5,979	7,056	7,852
Unrequited current transfer payments	3,293	4,156	4,732	5,142	5,712	6,328
Subsidies paid to enterprises	1,362	1,786	1,869	1,982	2,341	2,658
Personal benefit payments	436	569	603	661	701	791
Current grants—	1,496	1,799	2,260	2,498	2,671	2,864
to non-profit institutions	1,002	1,210	1,500	1,675	1,840	2,013
to local governments	494	589	759	823	831	852
Other current transfer payments	—	2	—	2	–1	15
Capital outlays	8,110	9,838	10,418	10,378	11,585	12,468
Gross fixed capital expenditure	7,385	8,816	9,386	9,392	10,410	11,116
Expenditure on new fixed assets	7,421	8,824	9,448	9,532	10,571	11,386
Expenditure on second hand fixed assets (net)	–36	–8	–62	–140	–161	–271
Increase in stocks	129	178	69	–10	79	235
Expenditure on land and intangible assets (net)	67	45	68	145	–16	–59
Capital transfer payments	395	430	584	631	607	589
Capital grants—	395	430	542	594	591	579
to local governments	302	326	440	461	420	442
to other sectors	93	103	102	132	171	137
Other capital transfer payments	—	—	42	37	16	10
Advances paid (net)	134	370	312	220	506	588
to local governments	20	24	13	24	26	12
to other sectors	113	346	299	197	480	577
Revenue and grants received	24,017	28,150	31,934	35,935	39,783	43,636
Taxes, fees and fines	7,229	8,379	9,297	10,450	11,497	13,051
Net operating surpluses of public trading enterprises	1,713	2,438	2,662	3,172	3,729	4,363
Property income and other revenue	1,819	2,007	2,266	2,735	3,681	3,797
Grants received from Commonwealth government	13,257	15,325	17,709	19,577	20,876	22,424
Financing transactions	5,600	6,889	6,742	6,194	7,343	7,945
Increase in provisions	867	1,030	1,487	1,827	1,934	2,155
Deficit	**4,733**	**5,859**	**5,255**	**4,367**	**5,409**	**5,790**
Deficit financing						
Net advances received from Commonwealth Government (ETF 41)	861	1,059	1,000	797	782	541
Other deficit financing	3,872	4,800	4,255	3,570	4,627	5,249

Local Governments

In each State of Australia and in the Northern Territory there exists a system of local government whose powers and responsibilities are generally similar and cover such matters as the construction and maintenance of roads, streets and bridges; water, sewerage and drainage systems; health and sanitary services; the supervision of building; and the administration of regulations relating to items such as weights and measures, slaughtering, the registration of dogs, etc. In addition to these obligatory functions, there are also many which may be performed by a local authority either with or without the consent of the ratepayers or the Governor-in-Council. These include provision of transport facilities, electricity, gas and other business undertakings, hospitals, charitable institutions, recreation grounds, parks, swimming pools, libraries, museums, etc.

The system is based on the principle of a grant of specific powers by the State and Northern Territory legislatures to the local government bodies, their autonomy, however, being more or less limited by the provision for general supervision by a department of the central government or by the Governor-in-Council. Otherwise, within the scope of the Acts under which they are constituted or which they have to administer, they are responsible only to the ratepayers. While the broad pattern of local government throughout the States of Australia is similar, the range of activities, election of officers, methods of valuation and rating powers, etc. vary considerably from State to State, and even within States.

OUTLAYS, REVENUE AND GRANTS RECEIVED AND DEFICIT OF LOCAL GOVERNMENTS
($ million)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Current outlays	2,084	2,509	2,803	3,097	3,380	3,681
General government final consumption expenditure	1,573	1,889	2,090	2,308	2,530	2,736
Requited current transfer payments	431	526	609	680	730	812
Unrequited current transfer payments	80	94	105	110	120	133
Capital outlays	1,641	1,667	1,713	2,011	2,220	2,380
Gross fixed capital expenditure	1,608	1,634	1,726	2,020	2,234	2,385
Expenditure on new fixed assets	1,615	1,687	1,775	2,091	2,319	2,451
Expenditure on secondhand fixed assets (net)	–7	–52	–48	–71	–85	–66
Increase in stocks	20	16	–10	–9	10	9
Expenditure on land and intangible assets (net)	–5	17	–7	–2	–24	–24
Capital transfer payments	12	8	4	–2	4	6
Advances paid (net)	6	–8	—	4	–5	5
Revenue and grants received	3,243	3,766	4,397	4,796	5,252	5,650
Taxes, fees and fines	1,817	2,080	2,309	2,537	2,779	3,030
Net operating surpluses of public trading enterprises	278	292	390	385	409	453
Property income and other revenue	326	436	446	515	703	783
Grants received—	823	960	1,252	1,360	1,360	1,384
from Commonwealth government	26	44	53	76	110	90
from State governments	796	915	1,199	1,284	1,250	1,293
Financing transactions	481	409	120	312	348	411
Increase in provisions	234	224	244	231	276	245
Deficit	**247**	**185**	**–124**	**81**	**72**	**166**
Deficit financing						
Net advances received from Commonwealth and State governments	20	24	13	24	26	12
Other deficit financing	227	161	–137	57	46	154

The areas over which local government bodies, numbering almost 900, exercise general control, are known in New South Wales as cities, municipalities and shires; in Victoria as cities, towns, boroughs and shires; in Queensland as cities, towns and shires; in South Australia as cities, corporate towns and district council areas; in Western Australia as cities, towns and shires and in Tasmania and the Northern Territory as cities and municipalities. In New South Wales some local authorities in an area have combined to form County Councils which provide services such as electricity and water supply. Within shires there are also some municipal units known as urban areas. Apart from the Australian Capital Territory and the more sparsely populated parts of New South Wales, South Australia and the Northern Territory, practically the whole of Australia comes within local government jurisdiction. For further details *see* State *Year Books*.

All Levels of Government

In the following table the transactions of the Commonwealth, State and local governments have been brought together and consolidated to provide details of the outlays and revenue of the public non-financial sector as a whole.

Summary of outlays, revenue and deficit

The outlays, revenue and deficit of all governments for the years 1981–82 to 1986–87 are set out in the following table.

OUTLAYS, REVENUE AND DEFICIT OF COMMONWEALTH, STATE AND LOCAL GOVERNMENTS (a)
($ million)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Current outlay	48,268	56,936	65,474	74,657	83,478	91,148
General government final consumption expenditure	24,925	28,395	31,917	35,734	39,695	43,384
Requited current transfer payments	5,285	6,609	8,187	10,456	13,004	14,884
Unrequited current transfer payments	18,058	21,932	25,370	28,467	30,779	32,879
Subsidies paid to enterprises	2,587	3,118	3,347	3,713	4,035	4,023
Personal benefit payments	13,315	16,238	19,008	21,320	23,057	24,892
Current grants—	2,155	2,575	3,014	3,433	3,688	3,964
to non-profit institutions	1,490	1,839	2,241	2,572	2,833	3,139
to foreign governments and organisations	665	736	773	861	855	825
Other current transfer payments	—	2	0	2	–1	—
Capital outlays	11,877	13,858	14,995	15,214	17,673	19,228
Gross fixed capital expenditure	10,865	12,495	13,542	14,230	16,586	18,330
Expenditure on new fixed assets	10,955	12,637	13,676	14,736	17,199	18,916
Expenditure on second-hand fixed assets (net)	–90	–141	–133	–506	–613	–585
Increase in stocks	424	488	259	–103	110	–214
Expenditure on land and intangible assets (net)	49	27	26	52	–123	–181
Capital transfer payments	320	378	512	605	554	494
Capital grants	320	378	470	568	538	483
Other capital transfer payments	—	—	42	37	16	10
Advances paid (net)	219	470	656	430	546	799
Revenue	52,876	58,586	64,736	76,129	86,164	97,015
Taxes, fees and fines	46,987	51,471	56,385	65,886	73,013	82,207
Net operating surpluses of public trading enterprises	3,054	3,649	4,452	5,443	6,191	7,017
Property income and other revenue	2,834	3,466	3,899	4,800	6,960	7,791
Financing transactions	7,269	12,209	15,732	13,743	14,987	13,360
Increase in provisions	1,930	2,250	3,031	3,028	3,551	4,012
Deficit	**5,339**	**9,959**	**12,701**	**10,715**	**11,436**	**9,348**

(a) Excludes financial enterprises.

Public Sector Borrowing

Figures given in this section do not purport to show either 'public debt' or 'net public debt', but are designed to provide details of securities issued on behalf of the Commonwealth Government, the States and the Northern Territory together with some details of the amounts borrowed by State, Territory and local governments with independent borrowing powers.

For a number of reasons, this information cannot be aggregated, without adjustment, to provide a measure of the 'debt' of public sector enterprises. There are forms of debt not evidenced by the issue of securities, such as Commonwealth Government advances to the States and Northern Territory for specific capital purposes. Governments themselves maintain significant holdings of their own securities; for example, the Commonwealth Government, in the National Debt Sinking Fund, the Loan Consolidation and Investment Reserve, and in other Trust Funds, holds large investments in securities issued either directly by itself or on behalf of the States and the Northern Territory. Some of the securities issued on behalf of the States and held by the Commonwealth Government represent the proceeds of overseas loans, securities for which were issued directly by the Commonwealth Government, the Australian currency counterpart proceeds of the loans being invested in special loans to finance State and Northern Territory works programs. A number of State and Northern Territory public corporations and local governments also maintain significant investments in government securities (including their own securities). Aggregation of the figures for securities on issue which follow would clearly involve a substantial degree of duplication; the sum of securities on issue therefore cannot be regarded as representing 'net public debt'.

Commonwealth Government and States and the Northern Territory: government securities on issue

Under the 1927 Financial Agreement between the Commonwealth Government and the States (as amended to 1976), the Commonwealth Government accepted responsibility for the securities of State governments then on issue and was empowered to arrange for all future borrowings on behalf of the Commonwealth and the States and to issue Commonwealth Government securities for all moneys borrowed.

During 1985–86, an agreement was reached with the Northern Territory Government for the formal allocation of securities relating to the Northern Territory Government's Borrowing Program and associated (nominal) debt allocations.

A National Dent Sinking Fund, which is administered by the National Debt Commission, was established by the *National Debt Sinking Fund Act 1923* for the redemption of securities issued on behalf of the Commonwealth Government. Under the terms of the Financial Agreement, the sinking funds existing in respect of the States' debts were also placed under the control of the Commission. The Commonwealth Government is reimbursed by the States and the Northern Territory for interest, exchange, etc. paid on their behalf, and the securities are redeemed from the Fund to which both the Commonwealth, the State governments and the Northern Territory (from 1985–86) make pre-determined contributions. The amounts to be contributed were varied when the *National Debt Sinking Fund Act 1966* repealed all previous legislation on sinking funds relating to securities on issue on behalf of the Commonwealth Government, and again in 1976 when the Act was amended to reflect the amendments to the Financial Agreement. In 1976, the Commonwealth assumed the responsibility for over $1,000 million of States' debt existing as at 30 June 1975. As a consequence, the separate States' Sinking Funds were absorbed into the National Debt Sinking Fund, with separate accounts being maintained for the Commonwealth and each State and the Northern Territory.

For further information relating to operations of the National Debt Sinking Fund reference should be made to the annual report of the National Debt Commission. Particulars of the creation and operation of sinking funds by the *National Debt Sinking Fund Act 1923* are included in issues of the *Year Book* prior to No. 23, and a general description of the provisions applying between 1966 and 1976 is given in issue No. 61.

In the tables which follow, details are given of transactions in Commonwealth Government securities issued on account of the Commonwealth Government, the States and the Northern Territory from 1985–86. Amounts relating to overseas loans are shown in Australian currency equivalent calculated on the basis of the rates of exchange ruling at 30 June in each year shown. All amounts are at face value.

For figures which permit accurate analysis of the structure and movement of securities issued on behalf of the Commonwealth and States, refer to the Commonwealth Budget Related Paper No. 1, *Government Securities on Issue*.

Net movement in securities on issue

Summary details of the net movement in securities issued for Commonwealth Government purposes and on account of the States during the period 1981–82 to 1986–87, are given in the following group of tables.

NET MOVEMENT IN GOVERNMENT SECURITIES ON ISSUE
($ million)

Source: Budget Related Paper 1—Government Securities on Issue 1987 (Table 7)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
NEW SECURITIES ISSUED						
Securities repayable in Australian currency—						
Treasury bonds	3,385.8	6,253.8	10,850.0	9,222.2	6,850.3	5,402.7
Treasury indexed bonds	—	—	—	—	331.8	303.7
Australian savings bonds	1,312.9	4,204.6	3,599.1	505.2	487.9	138.7
Special bonds	—	—	—	—	—	—
Income equalization deposits	57.6	55.6	24.0	3.7	0.8	0.4
Drought bonds	—	—	—	—	—	—
Overdue securities	—	—	—	—	—	—
Tax-free stock	—	—	—	—	—	—
Debentures	—	—	—	—	—	—
Stock issued to Government savings banks under special agreements *(a)*	53.3	61.9	114.6	71.1	—	—
Treasury notes	12,594.5	—	—	—	—	—
Treasury bills—						
Internal	1,718.0	—	—	—	—	—
Public	14,200.0	—	—	—	—	—
Other *(b)*	—	—	—	—	31.0	—
Total	*33,322.1*	*10,575.9*	*14,587.8*	*9,802.2*	*7,701.9*	*5,845.5*
Securities repayable in overseas currencies (c)	*831.3*	*1,077.0*	*1,238.4*	*1,729.1*	*2,555.2*	*2,886.1*
Total new securities issued	**34,153.4**	**11,652.9**	**15,826.2**	**11,531.3**	**10,254.1**	**8,731.6**

For footnotes see end of table.

NET MOVEMENT IN GOVERNMENT SECURITIES ON ISSUE—*continued*
($ million)

Source: Budget Related Paper 1—Government Securities on Issue 1987 (Table 7)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
REDEMPTIONS, REPURCHASES, CANCELLATIONS *(d)*						
Securities repayable in Australian currency—						
Treasury bonds	2,317.0	3,117.0	3,189.2	2,990.2	4,621.6	3,587.2
Treasury indexed bonds	—	—	—	—	0.5	0.6
Australian savings bonds	1,913.9	1,736.8	1,619.9	1,177.3	2,493.0	650.5
Special bonds	122.8	71.0	31.5	—	—	—
Income equalization deposits	55.2	65.8	48.6	40.5	27.9	19.1
Drought bonds	0.1	—	—	—	—	—
Overdue securities	–3.3	8.2	9.0	8.8	2.4	1.4
Tax-free stock	0.9	0.1	0.2	0.1	—	—
Debentures	4.4	3.3	—	—	—	—
Stock issued to Government savings banks under special agreements *(a)*	3.6	5.8	6.0	6.2	19.0	31.8
Treasury notes	12,441.9	44.2	1,562.8	–821.7	–3,958.8	–1,286.9
Treasury bills—						
Internal	1,509.7	152.2	479.6	212.9	–107.3	627.1
Public	14,700.0	1,400.0	—	—	—	—
Other *(b)*	—	—	—	—	—	5.4
Total	33,068.9	6,604.5	6,946.9	3,614.4	3,098.5	3,636.1
Securities repayable in overseas currencies (c)	131.3	1,523.9	666.1	2,697.0	4,217.2	2,533.5
Total redemptions,etc.	**33,199.4**	**8,128.4**	**7,612.9**	**6,311.4**	**7,315.7**	**6,169.6**
NET MOVEMENT						
Securities repayable in Australian currency—						
Treasury bonds	1,068.8	3,136.8	7,653.9	6,227.4	2,228.7	1,813.1
Treasury indexed bonds	—	—	—	—	331.3	303.1
Australian savings bonds	–601.0	2,467.8	1,975.6	–674.2	–2,005.1	–509.3
Special bonds	–122.8	–71.0	–31.9	—	—	—
Income equalization deposits	2.4	–10.2	–24.5	–36.8	–27.1	–18.6
Drought bonds	–0.1	—	–0.1	—	—	—
Overdue securities	3.3	–8.2	2.0	–2.2	–2.4	–1.4
Tax-free stock	–0.9	–0.1	–0.2	–0.1	—	—
Debentures	–4.4	–3.3	—	—	—	—
Stock issued to Government savings banks under special agreements *(a)*	47.7	56.1	108.7	64.9	–19.0	–31.8
Treasury notes	152.6	–44.2	–1,562.8	821.7	3,958.8	1,286.9
Treasury bills—						
Internal	208.3	–152.2	–479.6	–212.9	107.3	–627.1
Public	–500.0	–1,400.0	—	—	—	—
Other *(b)*	—	—	—	—	30.8	–5.4
Total	254.0	3,971.4	7,640.9	6,187.8	4,603.4	2,209.4
Securities repayable in overseas currencies *(c)*	700.0	–446.9	572.3	–967.9	–1,662.0	352.6
Net movement in securities on issue	**954.0**	**3,524.5**	**8,213.3**	**5,219.9**	**2,941.4**	**2,562.0**

(a) Recorded in Commonwealth Government Loan Fund as State domestic raisings. *(b)* Loans taken over from the previous Canberra Commerical Development Authority. *(c)* Australian currency equivalent at rates of exchange ruling at 30 June in each of the years shown. *(d)* Includes conversions from one type of security to another, which affect the net movements of individual loan categories but do not affect the overall net movement.
NOTE: For securities repayable in overseas currencies the amounts shown also include an element due to exchange rate variations in Securities on Issue.

Government securities on issue

The following table provides details of government securities on issue on account of the Commonwealth Government, the States and the Northern Territory, repayable in Australian and in overseas currencies.

GOVERNMENT SECURITIES ON ISSUE: COMMONWEALTH GOVERNMENT AND STATES AND NORTHERN TERRITORY
($ million)

Source: Budget Related Paper 1—Government Securities on Issue 1987 (Tables 2, 19)

	30 June					
	1982	*1983*	*1984*	*1985*	*1986*	*1987*
For Commonwealth Government purposes—						
Repayable in Australian currency—						
Treasury bonds	5,570.0	8,307.7	15,493.6	21,288.6	22,310.8	23,826.0
Treasury indexed bonds	—	—	—	—	331.3	634.5
Australian savings bonds	381.2	2,633.9	4,577.3	3,914.7	2,033.6	1,682.8
Special bonds	11.1	1.3	—	—	—	—
Income equalization deposit	165.7	155.5	130.9	94.1	67.1	48.4
Drought bonds	0.2	0.1	—	—	—	—
Advance loan subscriptions	—	—	—	—	—	—
Overdue securities	7.8	6.8	8.8	6.7	5.5	4.7
Treasury notes	3,680.0	3,635.8	2,073.0	2,894.7	6,853.5	8,140.4
Treasury bills—						
Internal	1,364.5	1,212.3	732.7	519.8	627.1	—
Public	1,400.1	—	—	—	—	—
Other *(a)*	—	—	—	—	30.7	25.3
Total	*12,580.4*	*15,953.4*	*23,016.4*	*28,718.7*	*32,259.7*	*34,362.0*
Repayable in overseas currencies *(b)*	5,335.7	6,905.2	7,076.2	9,786.4	13,827.0	15,058.8
Total Commonwealth Government	*17,916.1*	*22,858.5*	*30,092.6*	*38,505.1*	*46,086.7*	*49,420.9*
On account of States—						
Repayable in Australian currency—						
Treasury bonds	13,067.0	13,464.2	13,932.2	14,364.6	15,569.6	15,867.5
Australian savings bonds	1,828.7	2,038.9	2,071.1	2,059.4	1,934.7	1,776.3
Special bonds	92.5	30.6	—	—	—	—
Tax-free stock	13.9	13.8	13.6	13.5	13.5	13.5
Stock issued to Government savings banks under special agreements	651.6	707.8	816.5	881.3	862.3	830.5
Debentures	3.3	—	—	—	—	—
Overdue securities	—	0.2	0.1	—	1.2	0.6
Total	*15,657.0*	*16,255.5*	*16,833.4*	*17,318.9*	*18,381.3*	*18,488.4*
Repayable in overseas currencies *(b)*	16.3	13.9	7.7	6.4	5.4	5.3
Total States of which—	*15,673.3*	*16,269.4*	*16,841.1*	*17,325.2*	*18,386.7*	*18,493.7*
New South Wales	5,108.1	5,327.9	5,566.5	5,773.5	5,999.2	6,042.6
Victoria	3,932.4	4,045.3	4,204.1	4,385.5	4,550.1	4,587.2
Queensland	2,113.0	2,198.7	2,291.6	2,376.6	2,459.2	2,477.5
South Australia	1,961.9	2,035.2	2,009.4	1,598.2	1,982.9	1,577.3
Western Australia	1,486.3	1,547.8	1,614.9	1,990.6	1,591.5	1,965.4
Tasmania	1,071.6	1,114.4	1,154.5	1,200.7	1,246.3	1,256.4
Northern Territory	—	—	—	—	557.7	587.4
Total Commonwealth Government and States	**33,589.4**	**39,127.9**	**46,933.6**	**55,830.3**	**64,473.4**	**67,914.6**

(a) Includes loans taken over from the previous Canberra Commercial Development Authority. *(b)* Australian currency equivalent.

State and Local Authorities' Borrowings

The borrowings of Commonwealth, State and local authorities first came within the purview of the Loan Council under a 'gentlemen's agreement' originating in 1936. Since 1984–85 the 'gentlemen's agreement' has been replaced by the Global Approach whereby the Loan Council determines a voluntary global limit to apply to all new money borrowings by all public trading enterprises (except statutory marketing boards) and local governments. Details of the Global Approach are contained in Commonwealth Budget Paper No. 4, *Commonwealth Financial Relations with Other Levels of Government.*

The following table shows the aggregate borrowings by the State and local authorities in each of the years 1983–84 to 1987–88.

'GLOBAL' NEW MONEY BORROWINGS BY COMMONWEALTH, STATE AND NORTHERN TERRITORY SEMI-GOVERNMENT AND LOCAL AUTHORITIES (a), 1983–84 TO 1987–88
($ '000)

Source: Commonwealth Budget Paper (1987–88) No. 4 (Table 99)

	New South Wales	*Victoria*	*Queens–land*	*Western Australia*	*South Australia*	*Tas–mania*	*Northern Territory*	*States and the Territory*	*Common–wealth*	*Total*
				CONVENTIONAL BORROWINGS *(b)*						
1983–84	1,164,200	1,207,100	908,972	650,246	173,400	173,759	12,680	4,290,357	353,035	4,643,392
1984–85	1,337,282	2,007,130	736,789	770,442	478,500	225,623	37,250	5,593,016	622,065	6,215,081
1985–86	1,757,683	1,855,960	740,512	741,332	245,700	228,135	57,750	5,627,072	825,650	6,452,722
1986–87	1,792,622	1,783,270	848,700	531,133	305,600	216,053	86,300	5,563,678	678,497	6,242,175
				OTHER BORROWINGS *(c)*						
1983–84	729,692	373,231	*(d)*743,028	148,500	307,600	6,477	3,940	2,312,468	404,914	2,717,382
1984–85	603,366	*(e)*–22,308	*(d)*815,211	47,616	14,500	3,365	12,740	1,474,418	578,154	2,052,572
1985–86	301,381	150,700	798,400	—	154,300	1,865	7,250	1,413,896	363,517	1,777,413
1986–87	52,378	75,580	538,300	103,867	44,400	947	—	815,472	780,447	1,595,919
				TOTAL 'GLOBAL' BORROWINGS						
1983–84	1,893,892	1,580,331	*(d)*1,652,000	798,746	481,000	180,236	16,620	6,602,825	757,949	7,360,774
1984–85	1,940,648	1,984,822	*(d)*1,552,000	818,058	493,000	228,988	49,990	7,067,434	*(f)*1,200,219	8,267,653
1985–86	2,059,064	2,006,660	1,538,912	741,332	400,000	230,000	65,000	7,040,968	*(f)*1,189,167	8,230,135
1986–87	1,845,000	1,858,850	1,387,000	635,000	350,000	217,000	86,300	6,379,150	*(f)(g)*1,458,944	7,838,094
1987–88*(h)*	1,539,700	1,526,400	1,160,500	584,000	300,800	181,600	65,000	5,358,000	*(f)*1,187,900	6,545,900

(a) Includes borrowings by all Commonwealth, State and Northern Territory semi-government and local authorities, government owned companies and trusts. *(b)* Includes 'conventional' loan raisings under the Gentlemen's Agreement for 1983–84, and within the global limits thereafter. *(c)* Includes borrowings by way of domestic deferred payments, overseas trade credits, financial leases, sale and leasebank and similar arrangements, security deposits and other repayable capital contributions, and identified net changes in temporary purpose borrowings over the financial year. *(d)* Commonwealth Treasury estimates. *(e)* Negative reflecting a decline in temporary purpose borrowings outstanding over the course of 1984–85. *(f)* Includes 'implicit' borrowings associated with the Commonwealth's instalment purchase of Commonwealth Government Offices. *(g)* Includes unexpected net increase in temporary purpose borrowings of $54.9 million. *(h)* 'Global' new money limits agreed by Loan Council at its May 1987 Meeting.

Additional details of the transactions of public authorities engaged in particular fields of activity, such as defence, transport and communication, health and welfare, education, etc., may be found in other chapters of this *Year Book.*

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ABS Publications
Standardised Local Government Finance Statistics (tape and microfiche service) (1212.0)
Government Finance Statistics, Australia (5512.0)
Monthly Summary of Statistics, Australia (1304.0)
Digest of Current Economic Statistics, Australia (1305.0)
Australian National Accounts, National Income and Expenditure (5204.0)
Quarterly Estimates of National Income and Expenditure, Australia (5206.0)
Government Financial Estimates, Australia (5501.0)
Commonwealth Government Finance (5502.0)
State and Local Government Finance, Australia (5504.0)
Taxation Revenue, Australia (5506.0)

Other Publications
A variety of publications are available from the Australian Taxation Office.

25

NATIONAL ACCOUNTS

The Historical Setting

National accounting aims to provide a systematic summary of the transactions taking place in the economy, especially those that relate to the production and use of goods and services, and to transfers of income or capital between sectors of the economy.

Official estimates of Australian national income were first published in *The Australian Balance of Payments, 1928–29 to 1937–38*. The estimates used for this publication were, with only minor adjustments and revisions, those which had been produced in 1938 by Clark and Crawford for the years 1928–29 to 1935–36 but updated to 1937–38. Before this however, various estimates of Australian national income had been produced by a number of individuals. The first set of national accounts compiled by the ABS was published in the 1945 Budget White Paper *Estimates of National Income and Public Authority Income and Expenditure* and covered the period 1938–39 to 1944–45. The accounts were presented in a double-entry accounting form, showing a balance between gross national product and gross national expenditure.

The first major changes to the annual national accounts occurred in 1963 with the introduction of the annual publication, *Australian National Accounts: National Income and Expenditure* (5204.0). The contents, structure and presentation of the accounts were changed, with a considerable number of revisions being made to estimates published previously. Some of the revisions resulted from conceptual and definitional changes affecting the principal accounting aggregates, while others were due to the introduction of a new series of estimates for particular items which affected all years. Included for the first time with the 1963 accounts were constant price annual estimates of the principal expenditure aggregates.

The original *United Nations System of National Accounts and Supporting Tables*, published in 1953, was the first phase in the establishment of an internationally accepted framework within which the statistical information needed to analyse the economic process could be organised and related. Subsequent development of the accounting framework and its supporting concepts culminated in the publication by the United Nations in 1968 of detailed international standards for national accounting systems. In the 1971–72 issue of the *Australian National Accounts: National Income and Expenditure*, the structure of the accounting system was revised to accord more closely with the new international standards, concepts and definitions. An additional objective of the 1971–72 revisions was to align estimates of existing accounting aggregates with internationally reported aggregates following Australia's decision to join the Organisation for Economic Cooperation and Development (OECD).

Quarterly estimates of national income and expenditure were developed to provide more current indicators and to permit better analysis of the short-term behaviour of the economy and changes in trends in important variables. Quarterly estimates for Australia were first published in December 1960 for the period September quarter 1958 to September quarter 1960. The estimates were consistent with the annual figures published with the Commonwealth Government Budget in August 1960. *Australian National Accounts: National Income and Expenditure* (5206.0) has been issued for each subsequent quarter. The definitions and concepts underlying the quarterly and annual accounts are identical. Seasonally adjusted series were presented first in the September 1967 edition. Quarterly series at constant prices were initially published in a supplement to the December 1970 edition, while seasonally adjusted constant price estimates were introduced in September 1971.

Constant price estimates were rebased to average 1984–85 prices in 1988; (for the preceding 6 years or so, constant price estimates were published on a 1979–80 base). A detailed explanation of the need for rebasing constant price estimates, factors affecting the choice of base year, and a description of the major effects of the rebase are contained in the information paper *Change in Base Year of Constant Price Estimates from 1979–80 to 1984–85* (5227.0), released on 6 June 1988.

The design and preparation of input–output tables in the early post-war period was an important advance in the development of an integrated system of national accounts. By bringing intermediate transactions into account, input–output tables complete the description of all non-financial transactions within the economy. In Australia, experimental input–output tables for 1958–59 were published in 1964. Compilation was limited to the use of readily available data. Next in the series, final tables for 1962–63 were published in May 1973. That project laid the foundation for subsequent input–output tables for 1968–69; the final results were published in November 1977. The 1968–69 methodology followed that used in 1962–63 except for several limited modifications. An important feature of the 1968–69 tables was the use of data collected in the first integrated economic censuses conducted in respect of that year. Input–output tables for 1974–75 were the fourth in the series, and used a new Australian input–output estimation methodology. The introduction of the new methodology in 1974–75 enabled the time lag between the reference period and publication of the tables to be reduced and facilitated the introduction of an annual system of input–output tables. The final results were first made available in August 1980. The fifth in the series of input–output tables and the first of the annual tables was for 1977–78. The final results for that year were first made available in December 1982. Tables for subsequent years, up to 1980–81, have since been released.

Annual estimates of industry gross product at constant prices were presented first in the publication *Estimates of Gross Product by Industry at Current and Constant Prices, 1959–60 to 1965–66*, issued in 1969. This publication was expanded to include estimates of industry gross product at constant prices per person employed, and has been published since 1975. It is now titled *Australian National Accounts: Gross Product by Industry* (5211.0).

Quarterly estimates of industry gross product at constant prices were introduced in *Australian National Accounts: Gross Product by Industry, March Quarter 1988* (5222.0). This marked a major step forward in the provision of constant price estimates of gross domestic product (GDP). Constant price estimates of GDP are now published on an industry and expenditure basis both annually and quarterly.

In 1981, the first in a series of Occasional Papers on studies in national accounting was issued. Occasional Papers are produced by officers within the National Accounts Branch of the Australian Bureau of Statistics, and report on various aspects of research being undertaken. They are not used for the release of official statistics and do not necessarily reflect the views of the ABS. Nevertheless, they encourage feedback from users regarding proposed new developments within the Australian system of national accounts. A list of the national accounts Occasional Papers produced to date is provided with the bibliography at the end of this chapter.

Two new annual publications, *Australian National Accounts: State Accounts* (5220.0) and *Australian National Accounts: Estimates of Capital Stock* (5221.0) were released in 1987. These publications provide important extensions to the range of national accounts data for Australia. Earlier developmental work in these areas had been reported in various Occasional Papers.

Description of National Income and Expenditure Accounts

A brief description of the conceptual basis of national accounts is given in this section, but for a more detailed treatment of the concepts and structure of the Australian national accounts reference should be made to *Australian National Accounts: Concepts, Sources and Methods* (5216.0).

Definition and relationship of the concepts of product, income and expenditure

The main concepts of product, income and expenditure in the Australian national accounts are defined and expressed in equivalents as follows.

Gross domestic product is the total market value of goods and services produced in Australia within a given period after deduction of the cost of goods and services used up in the process of production but before deducting allowances for the consumption of fixed capital. Thus, gross domestic product, as here defined, is 'at market prices'. It is equivalent to gross national expenditure plus exports of goods and services less imports of goods and services. **Gross farm product** is that part of gross domestic product which derives from production in agriculture and services to agriculture. **Gross non-farm product** arises from production in all other industries.

Gross domestic product at factor cost is that part of the cost of producing the gross domestic product which consists of gross payments to factors of production (labour, land, capital and enterprise). It represents the value added by these factors in the process of production and is equivalent to gross domestic product less net indirect taxes.

Domestic factor incomes is that part of the value added within a given period by factors of production (labour, land, capital and enterprise) which accrues as income to their suppliers after allowing for the consumption of fixed capital. It is equivalent to gross domestic product at factor cost less consumption of fixed capital.

National income is the net income accruing within a given period to Australian residents from their services in supplying factors of production (labour, land, capital and enterprise) in Australia or overseas plus indirect taxes less subsidies. It is equivalent to domestic factor incomes plus indirect taxes less subsidies and net income paid overseas.

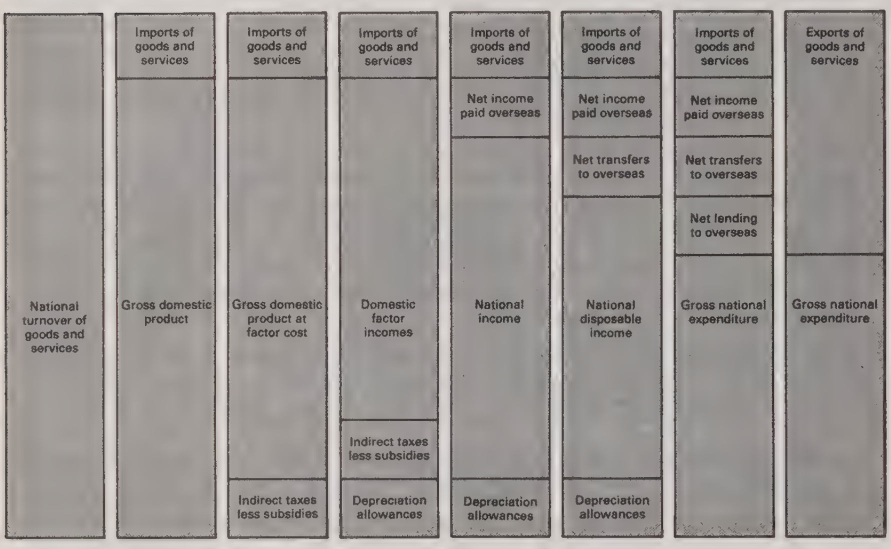
National disposable income is the net income accruing within a given period to Australian residents from their services in supplying factors of production, from net indirect taxes and from net transfers from overseas. It is equivalent to national income less net unrequited transfers to overseas.

Gross national expenditure is the total expenditure within a given period on final goods and services (i.e. excluding goods and services used up during the period in the process of production) bought by Australian residents. It is equivalent to the gross domestic product plus imports of goods and services less exports of goods and services.

Household income is the total income, whether in cash or kind, received by persons normally resident in Australia in return for productive activity (such as wages, salaries and supplements, incomes of unincorporated enterprises, etc.) and transfer incomes (such as cash social security benefits, interest, etc.). It includes the imputed interest of life offices and superannuation funds, which is the benefit accruing to policy holders and members from investment income of the funds. It also includes third party motor vehicle and public risk insurance claims paid to persons in respect of policies taken out by enterprises. However, it excludes any income which might be said to accrue to persons in the form of undistributed company income. It also includes any property income received by non-profit organisations such as private schools, churches, charitable organisations, etc.

The relationships between these aggregates (other than household income) are illustrated in the following diagram. No conclusions concerning the relative magnitude of various aggregates can be drawn from the diagram, especially as some of the boxes may represent negative values.

RELATIONSHIP OF MAIN IDENTITIES

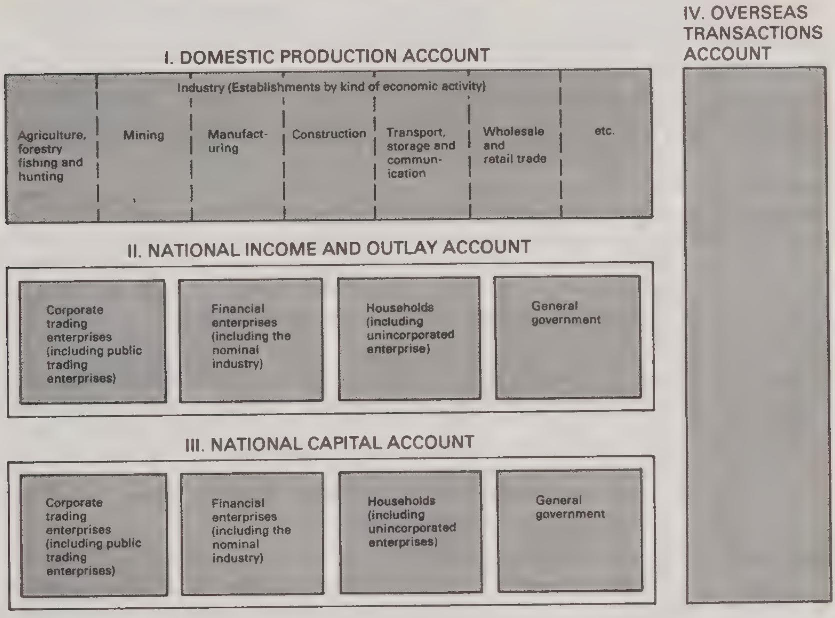

National turnover of goods and services
Imports of goods and services
Gross domestic product
Imports of goods and services
Gross domestic product at factor cost
Indirect taxes less subsidies
Imports of goods and services
Domestic factor incomes
Indirect taxes less subsidies
Depreciation allowances
Imports of goods and services
Net income paid overseas
National income
Depreciation allowances
Imports of goods and services
Net income paid overseas
Net transfers to overseas
National disposable income
Depreciation allowances
Imports of goods and services
Net income paid overseas
Net transfers to overseas
Net lending to overseas
Gross national expenditure
Exports of goods and services
Gross national expenditure

Framework of accounts and sectors

In the Australian national accounts, four internal sectors are distinguished; corporate trading enterprises (including public trading enterprises), financial enterprises (including the nominal industry, households (including their unincorporated enterprises) and general government. All of these internal sectors engage in productive activity, receive and disburse income and accumulate assets. In this publication no accounts are shown for individual internal sectors. The transactions of the internal sectors are summarised in three accounts: a domestic production account, a national income and outlay account and a national capital account. In addition, there is an overseas sector having an account which shows a summary of the transactions into which overseas governments, persons and businesses enter with Australian residents.

The framework of sectors and accounts underlying the Australian national accounts is set out in the following diagram. The large rectangles depict the minimum system of the four consolidated accounts of the nation. The light rectangles represent the accounts for institutional sectors. The subdivision of the domestic production account represents production accounts for establishments classified according to industry. Selected transactions from such production accounts are shown in *Australian National Accounts: National Income and Expenditure* (5204.0). Input-output tables are produced by developing such production accounts in detail.

ARTICULATION OF AUSTRALIAN NATIONAL ACCOUNTS


I. DOMESTIC PRODUCTION ACCOUNT
Industry (Establishments by kind of economic activity)
Agriculture, forestry fishing and hunting
Mining
Manufacturing
Construction
Transport, storage and communication
Wholesale and retail trade
etc.
II. NATIONAL INCOME AND OUTLAY ACCOUNT
Corporate trading enterprises (including public trading enterprises)
Financial enterprises (including the nominal industry)
Households (including unincorporated enterprise)
General government
III. NATIONAL CAPITAL ACCOUNT
Corporate trading enterprises (including public trading enterprises)
Financial enterprises (including the nominal industry)
Households (including unincorporated enterprises)
General government
IV. OVERSEAS TRANSACTIONS ACCOUNT

Description of the accounts

The **domestic production account** is a consolidation of the production accounts of all producers regardless of sector. The production account is shown as receiving revenue from the sale of goods and services to final buyers; all intermediate goods and services are cancelled out, since they represent a cost to one producer to offset the revenue of the other. On the payments side are shown the payments of indirect taxes less subsidies, and, since the account is presented from the point of view of the producing unit, the wages and salaries paid to employees. The balance is the gross operating surplus which may be divided into consumption of fixed capital and net operating surplus. Consumption of fixed capital is carried to the national capital account (or the sector capital accounts) and net operating surplus, together with wages and salaries and indirect taxes less subsidies, is carried to the national income and outlay account (or sector income and outlay accounts). In input–output tables, the domestic production account is broken up into accounts for separate industries, and transactions associated with intermediate usage of goods and services are shown in the production accounts for the separate industries.

The **national income and outlay account** is shown as receiving wages, salaries and supplements, net operating surplus and indirect taxes less subsidies from the domestic production account. From this income are deducted net payments of income and miscellaneous transfers to overseas; the remainder is the national disposable income. The outlay side of the account shows that this disposable income is largely used for final consumption expenditure and the balance is the nation's saving. The national income and outlay account is a consolidation of the sector income and outlay accounts.

The **national capital account** is a consolidation of the sector capital accounts. It shows, on the receipts side, consumption of fixed capital transferred from the domestic production account and saving transferred from the national income and outlay account (or from the sector income and outlay accounts). On the payments side are shown purchases by all sectors of new buildings and capital equipment, the increase in stocks of all sectors and a balance described as net lending to overseas. This concept of net lending to overseas includes increases (and, negatively, decreases) in Australia's overseas monetary reserves. The net lending to overseas is also the balance on current transactions in the overseas transactions account.

The **overseas transactions account** records all transactions of a current nature between Australian and overseas residents. Although this is an account for the overseas sector, the items are named from the Australian viewpoint. The account shows that Australia's current receipts from overseas consist of the value of Australia's exports of goods and services, property and labour income received from overseas, unrequited transfers from overseas and extraordinary insurance claims. These receipts are used for Australia's imports of goods and services and payments of property and labour income and unrequited transfers to overseas; the balance of current receipts represents net lending to overseas. Positive net lending to overseas corresponds to a surplus on current transactions with overseas, and negative net lending corresponds to a deficit. The transactions in property income shown in this account differ from estimates shown in balance of payments statistics because, in the national accounts, undistributed company income is not imputed to the beneficial owners. For this reason, net lending to overseas differs from the balance on current account shown in balance of payments statistics.

Estimates at constant prices

In addition to providing an overview of total economic activity, the national accounts provide information on the relationships between different parts of the economy, and also on changes in individual components, and their relationships with each other over time. One of the difficulties involved in interpreting the impact of changes from one period to another is that any observed movement is generally a combination of a change in price and a change in quantity. In many cases, interest lies in the changes in physical quantity underlying the dollar value of transactions. Consequently, the development of series adjusted to remove the effect of price changes is an important extension to a national accounting system. Estimates adjusted in this way are said to be at **constant prices,** whereas national accounting aggregates expressed in terms of the actual dollar values used in transactions are said to be at **current prices.**

An estimate of the change over time in the quantity of an individual commodity produced can be made simply by collecting data on the number of units produced, but the only practicable way in which quantities of diverse goods and services produced (or used) can be aggregated is in terms of money values, such as the value of output or the value of materials used. However, changes in money values may reflect nothing more than changes in the underlying prices. Making estimates at constant (or fixed) prices is the best way of having a common unit of measurement, while avoiding the direct effects of changing prices.

The current price value of a transaction may be expressed conceptually as the product of a price and a quantity. The value of the transaction at constant prices may then be thought of as being derived by substituting, for the current price, the corresponding price in the chosen base year. Aggregates at constant prices for each period are obtained by summing constant price values of the component transactions. In effect, quantities of the commodities involved in the component transactions are combined using their prices in the base year as weights. Constant price estimates are presented in tables for gross domestic product, exports and imports of goods and services, and gross national expenditure and its principal components on the following pages.

Reliability and revisions

Estimates of national income and expenditure are necessarily prepared from a very wide range of statistical information, some of which is available quickly and some of which is available only after a delay of several years. Some of it is closely related to the desired national accounting concepts, but some of it is not completely satisfactory in various respects, including coverage, concepts and timing. Estimates for the most recent years are therefore subject to revision. This applies particularly to estimates based on income tax statistics—income of companies, non-farm unincorporated enterprises, depreciation, and part of private gross fixed capital expenditure—which are subject to substantial revisions for the last couple of years because tabulations of income tax statistics become available progressively one to two years after the end of each financial year.

National Income and Expenditure Tables

The figures shown in the following tables are consistent with data published in *Budget Related Paper No. 2, National Income and Expenditure, 1987–88* (5213.0) and *Australian National Accounts: National Income and Expenditure, June Quarter 1988* (5206.0), except where footnoted otherwise.

DOMESTIC PRODUCTION ACCOUNT
($ million)

	1985–86	*1986–87*	*1987–88*
Final consumption expenditure—			
Private	141,252	154,452	169,994
Government	44,663	48,568	52,413
Gross fixed capital expenditure—			
Private	40,570	43,562	51,512
Public enterprises	10,538	11,602	10,289
General government	7,132	7,776	8,070
Increase in stocks	1,445	–1,540	–721
Statistical discrepancy	–1,829	1,251	3,314
Gross national expenditure	*243,771*	*265,671*	*294,871*
Exports of goods and services	37,948	42,199	48,737
Less Imports of goods and services	45,517	47,491	51,721
Expenditure on gross domestic product	**236,202**	**260,379**	**291,887**
Wages, salaries and supplements	121,566	132,637	145,557
Gross operating surplus—			
Trading enterprises—			
Companies	33,103	36,255	42,393
Unincorporated enterprises	27,663	31,770	35,510
Dwellings owned by persons	17,785	20,093	23,092
Public enterprises	8,970	10,084	11,396
General government	5,022	5,462	5,959
Financial enterprises	–299	–362	–334
Less Imputed bank service charge	5,994	7,056	8,359
Gross domestic product at factor cost	*207,816*	*228,883*	*255,214*
Indirect taxes *less* subsidies	28,386	31,496	36,673
Gross domestic product	**236,202**	**260,379**	**291,887**
Gross farm product	*8,993*	*10,112*	*12,046*
Gross non-farm product	*227,209*	*250,267*	*279,841*

NATIONAL INCOME AND OUTLAY ACCOUNT
($ million)

	1985–86	*1986–87*	*1987–88*
Wages, salaries and supplements	121,566	132,637	145,557
Net operating surplus	48,812	53,931	61,607
Domestic factor incomes	*170,378*	*186,568*	*207,164*
Less Net income paid overseas	7,800	9,254	10,512
Indirect taxes	32,374	35,642	40,695
Less subsidies	3,988	4,146	4,022
National income	*190,964*	*208,810*	*233,325*
Less Net unrequited transfers to overseas	–817	–1,326	–1,769
National disposable income	**191,781**	**210,136**	**235,094**
Final consumption expenditure—			
Private	141,252	154,452	169,994
Government	44,663	48,568	52,413
Saving	5,866	7,116	12,687
Disposal of income	**191,781**	**210,136**	**235,094**

NATIONAL CAPITAL ACCOUNT
($ million)

	1985–86	*1986–87*	*1987–88*
Consumption of fixed capital	37,438	42,315	48,050
Saving—			
Increase in income tax provisions	539	2,031	1,473
Undistributed income—			
Trading enterprises	–2,499	–6,265	–5,006
Financial enterprises	–2,616	–2,356	–2,235
Household saving	13,994	14,538	14,682
General government surplus on Current transactions	–3,552	–832	3,773
Extraordinary insurance claims paid	—	—	—
Finance of gross accumulation	**43,304**	**49,431**	**60,737**
Gross fixed capital expenditure—			
Private—			
Dwellings	11,385	10,948	12,970
Non-dwelling construction	7,926	9,043	11,506
Equipment	18,425	20,387	21,957
Real estate transfer expenses	2,834	3,184	5,079
Public enterprises	10,538	11,602	10,289
General government	7,132	7,776	8,070
Total gross fixed capital expenditure	*58,240*	*62,940*	*69,871*
Increase in stocks—			
Private non-farm	1,954	–1,151	–106
Farm	–167	42	164
Public marketing authorities	–476	–560	–942
Other public authorities	134	129	163
Statistical discrepancy	–1,829	1,251	3,314
Net lending to overseas	–14,552	–13,220	–11,727
Gross accumulation	**43,304**	**49,431**	**60,737**

OVERSEAS TRANSACTIONS ACCOUNT
($ million)

	1985–86	*1986–87*	*1987–88*
Imports of goods and services	45,517	47,491	51,721
Property income to overseas	9,246	10,808	12,226
Labour income to overseas	174	196	261
Unrequited transfers to overseas—			
Personal	720	746	783
General government	980	945	994
Net lending to overseas	–14,552	–13,220	-11,727
Use of current receipts	**42,085**	**46,966**	**54,258**
Exports of goods and services	37,948	42,199	48,737
Property income from overseas	1,445	1,572	1,764
Labour income from overseas	175	178	211
Extraordinary insurance claims	—	—	—
Unrequited transfers from overseas—			
Personal	1,820	2,231	2,728
Income taxes	697	786	818
Current receipts from overseas	**42,085**	**46,966**	**54,258**

EXPENDITURE ON GROSS DOMESTIC PRODUCT AT AVERAGE 1984–85 PRICES
($ million)

	1985–86	*1986–87*	*1987–88*
Final consumption expenditure—			
Private	130,517	131,362	135,078
Government	41,945	42,897	44,052
Gross fixed capital expenditure—			
Private	36,378	35,651	39,677
Public enterprises	9,655	9,796	8,077
General government	6,594	6,741	6,631
Increase in stocks	1,265	–1,137	–431
Statistical discrepancy	–1,639	1,109	2,690
Gross national expenditure	*224,715*	*226,419*	*235,774*
Exports of goods and services	36,111	39,166	41,433
Less Imports of goods and services	39,598	38,336	41,835
Expenditure on gross domestic product	**221,228**	**227,249**	**235,372**
Gross farm product	*8,947*	*9,598*	*9,398*
Gross non-farm product	*212,281*	*217,651*	*225,974*

GROSS FIXED CAPITAL EXPENDITURE AND INCREASE IN STOCKS AT AVERAGE 1984–85 PRICES
($ million)

	1985–86	*1986–87*	*1987–88*
Gross fixed capital expenditure—			
Private—			
Dwellings	10,459	9,443	10,519
Non-dwelling construction	7,144	7,521	8,908
Equipment	16,323	16,293	17,265
Real estate transfer expenses	2,452	2,394	2,985
Total private	*36,378*	*35,651*	*39,677*
Public—			
Public enterprises	9,655	9,796	8,077
General government	6,594	6,741	6,631
Total public	*16,249*	*16,537*	*14,708*
Total	**52,627**	**52,188**	**54,385**
Increase in stocks—			
Private non-farm	1,812	–771	118
Farm	–148	30	152
Public marketing authorities	–528	–517	–835
Other public authorities	129	121	134
Total	**1,265**	**–1,137**	**–431**

MAIN AGGREGATES AT CURRENT PRICES

($ million)

	1	*2*	*3*	*4*	*5*	*6*	*7* (*1 to 6*)	*8*
	Final consumption expenditure		*Private gross fixed capital*	*Public gross fixed capital*		*Statis-tical*		*Exports of goods*
Year	*Private*	*Government*	*expenditure*	*expenditure*	*Increase in stocks*	*discrep-ancy*	*Gross national expenditure*	*and services*
1948–49	3,074	431	538	268	45	–23	4,333	1,142
1949–50	3,541	512	700	385	54	65	5,257	1,302
1950–51	4,320	694	999	555	125	–27	6,666	2,087
1951–52	5,164	941	1,215	742	377	104	8,543	1,481
1952–53	5,475	1,090	1,228	723	–294	–165	8,057	1,850
1953–54	6,013	1,048	1,421	735	109	–125	9,201	1,787
1954–55	6,540	1,127	1,595	787	166	67	10,282	1,702
1955–56	7,023	1,253	1,758	835	229	–50	11,048	1,734
1956–57	7,500	1,325	1,839	846	–45	–125	11,340	2,184
1957–58	7,866	1,380	1,998	886	56	–41	12,145	1,840
1958–59	8,271	1,499	2,072	978	253	–9	13,064	1,850
1959–60	9,079	1,612	2,362	1,077	168	129	14,427	2,144
1960–61	9,630	1,749	2,602	1,110	478	41	15,610	2,165
1961–62	9,932	1,894	2,504	1,289	–219	–112	15,288	2,462
1962–63	10,653	1,993	2,789	1,331	253	–96	16,923	2,483
1963–64	11,523	2,176	3,159	1,480	120	–93	18,365	3,149
1964–65	12,467	2,485	3,677	1,726	561	36	20,952	3,041
1965–66	13,263	2,826	3,948	1,895	109	16	22,057	3,125
1966–67	14,338	3,224	4,128	2,010	360	–40	24,020	3,472
1967–68	15,667	3,721	4,496	2,175	113	–157	26,015	3,559
1968–69	17,058	3,897	5,182	2,319	682	–76	29,062	3,882
1969–70	18,817	4,304	5,641	2,545	438	14	31,759	4,749
1970–71	20,817	4,900	6,375	2,735	449	–132	35,144	5,065
1971–72	23,144	5,602	6,927	3,149	10	78	38,910	5,659
1972–73	25,966	6,348	7,654	3,272	–290	276	43,226	6,984
1973–74	30,691	7,943	8,989	3,805	1,172	1,141	53,741	7,847
1974–75	37,383	10,676	9,571	5,467	1,089	1,005	65,191	10,034
1975–76	44,739	13,204	12,055	6,416	171	–103	76,482	11,101
1976–77	51,140	15,292	14,209	6,782	1,129	–452	88,100	13,275
1977–78	56,852	17,209	15,246	7,373	–452	–86	96,142	14,067
1978–79	64,103	18,967	18,058	7,769	1,284	–1,213	108,968	16,631
1979–80	72,364	21,271	19,982	8,536	788	–1,901	121,040	21,716
1980–81	82,136	24,913	25,478	9,459	484	–1,077	141,393	22,191
1981–82	93,579	28,455	29,790	11,381	1,561	–3,229	161,537	22,885
1982–83	105,310	32,357	27,687	13,211	–2,454	–2,415	173,696	24,685
1983–84	115,723	35,763	29,704	14,189	1,425	–3,408	193,396	28,027
1984–85	126,924	40,109	35,482	15,044	854	–2,061	216,352	34,139
1985–86	141,252	44,663	40,570	17,670	1,445	–1,829	243,771	37,948
1986–87	154,452	48,568	43,562	19,378	–1,540	1,251	265,671	42,199
1987–88	169,994	52,413	51,512	18,359	–721	3,314	294,871	48,737

MAIN AGGREGATES AT CURRENT PRICES—*continued*

($ million)

	9	10	11	12	13	14	15	16
		(7+8–9) *(11+13+14)*	*Wages salaries and supple-ments*	*Gross operating surplus*				
Year	*Imports of goods and services*	*Gross domestic product*		*Trading enterprises*	*Total*	*Indirect taxes less subsidies*	*National income*	*House-hold income*
1948–49	979	4,496	2,205	1,819	1,863	428	3,986	3,787
1949–50	1,260	5,299	2,512	2,230	2,284	503	4,711	4,484
1950–51	1,726	7,027	3,163	3,223	3,293	571	6,316	6,140
1951–52	2,437	7,587	4,003	2,689	2,772	812	6,686	6,285
1952–53	1,312	8,595	4,329	3,376	3,478	788	7,547	7,036
1953–54	1,601	9,387	4,612	3,775	3,883	892	8,279	7,395
1954–55	1,983	10,001	5,050	3,861	3,974	977	8,778	7,929
1955–56	1,953	10,829	5,538	4,123	4,231	1,060	9,477	8,598
1956–57	1,736	11,788	5,858	4,621	4,737	1,193	10,334	9,171
1957–58	1,925	12,060	6,085	4,541	4,682	1,293	10,478	9,187
1958–59	1,960	12,954	6,381	5,088	5,229	1,344	11,256	9,889
1959–60	2,279	14,292	7,085	5,610	5,737	1,470	12,372	10,340
1960–61	2,585	15,190	734	5,870	5,994	1,562	13,115	11,092
1961–62	2,183	15,567	7,887	6,063	6,173	1,507	13,351	11,424
1962–63	2,591	16,815	8,361	6,663	6,824	1,630	14,442	12,194
1963–64	2,840	18,674	9,140	7,609	7,778	1,756	16,139	13,608
1964–65	3,440	20,553	10,253	8,182	8,361	1,939	17,787	14,922
1965–66	3,580	21,602	11,086	8,160	8,393	2,123	18,566	15,646
1966–67	3,664	23,828	12,118	9,174	9,457	2,253	20,494	17,382
1967–68	4,103	25,471	13,212	9,504	9,800	2,459	21,825	18,282
1968–69	4,238	28,706	14,627	11,209	11,362	2,717	24,687	20,538
1969–70	4,715	31,793	16,452	12,007	12,353	2,988	27,281	22,635
1970–71	5,070	35,139	18,884	12,597	13,022	3,233	30,133	25,290
1971–72	5,208	39,361	21,077	14,133	14,618	3,666	33,710	28,510
1972–73	5,343	44,867	23,539	16,692	17,222	4,106	38,509	34,982
1973–74	7,828	53,760	28,895	19,310	19,762	5,103	46,500	42,793
1974–75	10,289	64,936	37,160	21,035	21,567	6,209	55,549	53,222
1975–76	10,830	76,753	42,794	24,997	25,936	8,023	65,185	61,975
1976–77	13,872	87,503	48,278	29,267	30,186	9,039	73,981	71,076
1977–78	15,072	95,137	53,070	31,762	32,521	9,546	79,701	78,414
1978–79	17,843	107,756	57,057	38,439	39,637	11,062	90,319	87,475
1979–80	20,960	121,796	63,646	43,904	45,040	13,110	101,548	97,608
1980–81	24,896	138,688	74,037	48,797	46,670	14,981	115,467	111,917
1981–82	28,685	155,737	85,451	52,763	53,266	17,020	128,640	128,547
1982–83	28,527	169,854	94,980	54,699	55,525	19,349	138,600	141,994
1983–84	30,792	190,631	100,470	67,549	67,774	22,387	155,964	157,379
1984–85	39,008	211,483	110,625	75,954	75,140	25,718	172,427	173,429
1985–86	45,517	236,202	121,566	87,521	86,250	28,386	190,964	193,513
1986–87	47,491	260,379	132,637	98,202	96,246	31,496	208,810	213,923
1987–88	51,721	291,887	145,557	112,391	109,657	36,673	233,325	233,249

GROSS DOMESTIC PRODUCT AT AVERAGE 1984–85 PRICES

($ million)

Year	*Final consumption expenditure*		*Gross fixed capital expenditure*			*Increase in stocks*	*Statistical discrepancy*	*Gross national expenditure*	*Plus exports of goods and services*	*Less imports of goods and services*	*Gross domestic product*
	Private	*Government*	*Private*	*Public*							
				Public enterprises	*General government*						
1948–49	32,875	7,844	62,14	3,361		619	–267	50,646	5,678	6,289	50,035
1949–50	34,870	8,478	7,356	4,435		309	699	56,147	6,015	7,617	54,545
1950–51	37,476	9,535	8,821	5,612		1,005	–252	62,197	5,736	9,087	58,846
1951–52	37,268	10,784	8,808	6,395		2,713	819	66,787	5,219	10,318	61,688
1952–53	36,387	11,287	8,076	5,612		–1,972	–1,187	58,203	6,453	5,954	58,702
1953–54	38,871	10,502	9,106	5,476		744	–868	63,831	6,345	7,777	62,399
1954–55	41,436	10,867	9,845	5,669		1,022	453	69,292	6,501	9,457	66,336
1955–56	42,742	11,129	10,193	5,758		1,358	–321	70,859	7,057	8,949	68,967
1956–57	43,120	11,345	10,301	5,619		–230	–762	69,393	7,957	7,648	69,702
1957–58	44,560	11,540	10,923	5,811		401	–246	72,989	7,106	8,405	71,690
1958–59	45,940	12,438	11,226	6,329		1,467	–53	77,347	8,096	8,652	76,791
1959–60	49,019	11,936	12,792	6,757		793	773	82,070	8,772	10,392	80,450
1960–61	49,898	12,436	13,702	6,787		2,259	220	85,302	9,207	11,717	82,792
1961–62	51,188	13,089	13,000	7,653		–924	–608	83,398	10,443	9,983	83,858
1962–63	54,339	13,589	14,393	7,829		1,257	–516	90,891	10,221	11,726	89,386
1963–64	57,802	14,222	16,054	8,490		650	–476	96,742	11,883	13,007	95,618
1964–65	60,464	15,490	18,022	95,27		2,395	197	106,095	11,853	15,518	102,430
1965–66	62,283	17,150	18,890	10,187		560	88	109,158	12,008	15,908	105,258
1966–67	65,301	18,483	19,138	10,374		1,429	–187	114,538	13,340	16,134	111,744
1967–68	69,048	20,448	20,379	10,839		784	–723	120,775	14,178	18,054	116,899
1968–69	73,123	20,419	22,491	11,137		2,689	–327	129,532	15,223	18,635	126,120
1969–70	77,892	21,343	23,778	11,690		2,083	94	136,880	17,881	20,573	134,188
1970–71	81,141	22,173	25,626	11,867		1,565	–498	141,874	19,626	20,418	141,082
1971–72	84,465	23,057	25,989	12,687		–2	321	146,517	21,078	19,739	147,8567
1972–73	89,156	23,867	26,686	12,371		–1,181	1,035	151,934	21,493	19,945	153,482
1973–74	94,018	25,628	27,472	12,610		3,515	3,642	166,885	20,146	26,156	160,8751
1974–75	96,243	27,604	23,862	7,162	7,490	2,819	2,704	167,884	21,930	26,799	163,015
1975–76	99,476	29,622	25,775	7,133	7,777	229	–148	169,864	22,653	25,174	167,343
1976–77	101,951	30,665	27,161	7,049	6,955	2,474	–810	175,445	24,197	28,062	171,580
1977–78	103,788	31,855	26,621	7,434	6,689	–958	–94	175,335	24,705	26,826	173,217
1978–79	107,393	32,944	29,156	7,611	6,293	2,340	–1,966	183,771	26,816	29,099	181,488
1979–80	109,897	33,555	29,556	7,814	5,788	1,367	–2,887	185,090	28,882	29,006	184,966
1980–81	113,590	35,025	33,983	8,217	5,341	645	–1,434	195,367	27,768	31,695	191,0401
1981–82	118,267	35,331	36,102	9,358	5,179	1,762	–3,961	202,038	27,619	35,142	194,515
1982–83	120,078	36,342	30,538	9,700	5,082	–2,595	–2,692	196,453	27,684	32,000	192,137
1983–84	122,819	37,865	31,325	9,536	5,477	1,805	–3,587	205,240	30,005	33,685	201,560
1984–85	126,924	40,109	35,482	8,911	6,133	854	–2,061	216,352	34,139	39,008	211,483
1985–86	130,517	41,945	36,378	9,655	6,594	1,265	–1,639	224,715	36,111	39,598	221,228
1986–87	131,362	42,897	35,651	9,796	6,741	1,137	1,109	226,419	39,166	38,336	227,249
1987–88	135,077	44,052	39,677	8,077	6,631	431	2,690	235,773	41,433	41,835	235,371

NOTE: Estimates prior to 1974–75 have been derived from estimates valued at the average prices of an earlier base year. A description of the methods used is presented in Appendix C of the 1985–86 edition of *Australian National Accounts: National Income and Expenditure* (5204.0).

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FOREIGN TRANSACTIONS

This chapter includes statistics of foreign trade, balance of payments, foreign investment and foreign participation in enterprises in Australia.

FOREIGN TRADE

Constitutional Provisions and Legislation

Constitutional provisions

By the Commonwealth of Australia Constitution Act, section 51(1), the power to make laws with respect to trade and commerce with other countries was conferred on the Australian Parliament. Under section 86 of the Constitution, the collection and control of duties of customs and excise was passed to the Executive Government of the Commonwealth on 1 January 1901. Other references to trade and commerce are contained in sections 87 to 95 of the Constitution.

Commonwealth Government legislation

Commonwealth Government legislation affecting foreign trade includes the *Customs Act 1901*, the *Customs Tariff Act 1987* and the *Customs Tariff (Anti-Dumping) Act 1975*. The Customs Tariff Act provides the statutory authority for imposing the actual rates of duty operative from time to time, while the Customs Tariff (Anti-Dumping) Act provides protection for Australian industry against various forms of unfair trading.

The Customs Tariff

The first *Australian Customs Tariff* was introduced by Resolution on 8 October 1901, from which date uniform duties came into effect throughout Australia. The *Australian Customs Tariff* was developed in a period when government industry policy was influenced by a desire to protect Australian industries from import competition. More recently however, governments have held the view that for Australia to maximise its national income, it must encourage industries which are capable of operating under lower levels of protection. While customs collections are still a major source of revenue, the reliance on tariffs as an industry assistance measure is diminishing, with more emphasis being placed on measures which actively assist industry to improve its efficiency.

On 1 January 1988 Australia introduced a new Tariff based on the Harmonized Commodity Description and Coding System.

The customs value of imported goods is established in accordance with the principles of Article VII of the General Agreement on Tariffs and Trade. This system is given effect by section 154–section 161(D) of the Customs Act. The system provides several methods of valuing goods for Customs purposes as provided in section 157(1)–section 157(8).

In an unconditional sale, the customs value of imported goods will be based as far as possible on the transaction value method. This method provides for the acceptance of the price actually paid or payable to the vendor, provided sufficient and reliable information is available for this purpose. This price may be subject to adjustments under section 154(2) and section 159(3). If there is no price paid or payable, or the price is unacceptable, the other valuation methods must be attempted sequentially.

Rates of duty

The *Customs Tariff Act 1987* provides for three distinct types of rates.

General rates: These are set out in Schedule 3 to the Customs Tariff Act and apply to goods from all countries that do not qualify for either Special rates of duty or Concessional rates of duty for a particular tariff classification.

Special rates: These are set out in Schedule 3 to the Customs Tariff Act and apply to goods, the produce or manufacture of specified countries being:

- *Forum Island Countries*. These countries are set out in Part I of Schedule 1 to the Customs Tariff Act and preference is given to goods the subject of the South Pacific Regional Trade and Economic Co-operation Agreement (SPARTECA).
- *Developing Countries*. Those countries set out in Part II of Schedule 1.
- *Papua New Guinea*. The rates of duty are set out in Schedule 3 to the Customs Tariff Act and preference is given to goods the subject of the Papua New Guinea–Australia Trade and Commercial Relations Agreement (PATCRA). Wherever Papua New Guinea is not mentioned in Schedule 3, goods take a FREE rate of duty.
- *New Zealand*. The rates of duty are set out in Schedule 3 to the Customs Tariff Act and preference is given to goods the subject of the Australia–New Zealand Closer Economic Relations—Trade Agreement (ANZCERTA). Where New Zealand is not mentioned in Schedule 3, goods take a FREE rate of duty.
- *Canada*. The rates of duty are set out in Schedule 3 to the Customs Tariff Act and preference is given to goods the subject of the Canada–Australia Trade Agreement (CANATA).

Concessional rates: The rates of duty are set out in Schedules 4 and 5 to the Customs Tariff Act:

- Schedule 4, applies to Special Concessional rates of duty and is applicable to imports from all sources complying with particular ownership or other provisions.
- Schedule 5, contains all rates of duty both normal and concessional, for goods subject to tariff quotas.

Import controls

The effects of the world-wide recession in the early 1970s necessitated the imposition of import controls over particular commodities to protect employment and investment in some important Australian industries. At present, the textile, clothing and footwear, motor vehicle and cheese industries are assisted by tariff quotas, while imports of certain used, secondhand or disposals earthmoving, excavating and materials handling equipment and certain used, secondhand and disposals four-wheel drive vehicles are subject to import licensing controls.

The decision to impose controls either in the form of import licensing or tariff quotas is made by the Commonwealth Government based on the recommendations of the Industries Assistance Commission after inquiry into the industry. Both forms of control are usually applied on a global basis and are intended to provide short term assistance to an industry but there are significant differences in their application.

Import licensing is a non-tariff form of protection that imposes an absolute restriction on the quantity, weight or value (as appropriate) of the goods that may be imported in a certain period. Goods imported without a licence cannot be entered for home consumption and may be subject to seizure as prohibited imports. The legal basis for import licensing is the Customs (Import Licensing) Regulations prescribed under the Customs Act.

In respect of goods subject to tariff quotas, by-laws are made pursuant to section 271 of the Customs Act and Determinations are made pursuant to section 273. These allow goods to be imported and cleared for home consumption at normal rates of customs duty up to a ceiling level specified by the government for a particular period. Additional temporary (or penalty) duties are applied to goods entered for home consumption outside the quota arrangements.

The Customs (Prohibited Imports) Regulations, as prescribed under section 50 of the Customs Act, list those commodities which are prohibited absolutely, or restricted, on social grounds. Other items are restricted on health grounds (human, animal or plant) by the *Quarantine Act 1908*, the *Therapeutic Goods Act 1966*, and the *Wildlife Protection (Regulation of Exports and Imports) Act 1982*; and sundry allied Commonwealth and State legislation.

Export controls

Section 112 of the *Customs Act 1901* provides that the Governor-General may, by regulation, prohibit the exportation of goods from Australia and that this power may be exercised by:

(a) prohibiting the exportation of goods absolutely;

(b) prohibiting the exportation of goods to a specified place; or

(c) prohibiting the exportation of goods unless prescribed conditions or restrictions are complied with. Goods subject to this export control are listed in the Customs (Prohibited Exports) Regulations.

Export prohibitions may also be imposed under the Export Control Act administered by the Department of Primary Industries and Energy, the Wildlife Protection (Regulation of Exports and Imports) Act administered by the Department of Arts, Sport, the Environment, Tourism and Territories; the Quarantine Act; and sundry allied Commonwealth and State legislation.

Exchange control

Up to 25 June 1984, control over goods exported from Australia was maintained under the Banking (Foreign Exchange) Regulations to ensure that the full proceeds from the sale of such goods were received into the Australian banking system. However, as part of the general relaxation of exchange controls announced by the Government and applying from 25 June 1984, controls in respect of export proceeds were removed completely.

Trade descriptions

The *Commerce (Trade Descriptions) Act 1905*, administered by the Australian Customs Service, gives power to require the application of a proper trade description to certain prescribed goods imported into or exported from Australia. Goods which must bear a prescribed trade description upon importation into Australia are specified in the Commerce (Imports) Regulations. With regard to exports from Australia, marking requirements are prescribed in regulations issued under the Act and in relation to specified export commodities.

Export integration—EXIT

The Australian Customs Service (ACS) has developed an electronic communication network (EXIT) to integrate export documentation procedures involving the ACS, other government agencies with responsibility for controlling exports, the ABS, exporters and freight carriers. The EXIT communication network streamlines the recording and reporting of export cargo.

Australian Trade Commission

The Australian Trade Commission (Austrade) was formed in January 1986 to provide a wide range of services to exporters. Functions taken over by the new authority were formerly carried out by the Trade Commissioner Service, the Export Development Grants Board, the Export Finance and Insurance Corporation, the Australian Overseas Projects Corporation and the marketing and promotion elements of the Department of Foreign Affairs and Trade.

The objectives of Austrade are to improve export performance by motivating industry to become more export oriented, to facilitate export marketing and to advocate an improved environment for export.

Austrade has offices in all capital cities, Wollongong, Newcastle, Geelong and Townsville. Offices are also located in all major overseas trading countries and in many other countries with representation by Australian Trade Correspondents and Marketing Officers.

Export finance and insurance

Austrade provides direct loans to overseas borrowers for the purchase of Australian capital goods and services. Finance is provided on an individual export project basis or on a line of credit basis under which a range of orders may be placed with different Australian suppliers. Austrade also offers guarantees to lending institutions which finance Australian exporters, or who make loans to overseas borrowers.

Insurance services are provided to cover Australian exporters of goods and services against non-payment or protracted delay in payment and against unfair calling of bonds and guarantees. Comprehensive export insurance policies can also cover against impositions of import restriction or cancellation of valid import licenses, the onset of war and revolution. Indemnities are provided to financial institutions or insurers providing bonds or guarantees to overseas buyers. Insurance is also provided to Australian firms against political risks associated with their overseas investments.

Export incentives

Austrade provides an export incentive scheme in the form of cash grants based on eligible expenditure for such overseas activities as market research, fares, representation, advertising and the cost of participating in overseas trade displays.

The Export Market Development Grants Scheme aims to encourage small to medium size Australian exporters to develop overseas markets for goods, specified services, industrial property rights and know-how which are substantially of Australian origin. Grants are determined on the basis of 70 per cent of eligible expenditure and are subject to a maximum of $200,000 in any one grant year. The percentage grant for eligible expenditure reduces in subsequent years for which grants are payable to 7.5 per cent in the seventh and subsequent years.

The Scheme was introduced in 1985 and was revised in July 1988. Important changes include a new expenditure threshold of $10,000, eligibility of expenditure on language training and the exclusion of promotion expenditure in New Zealand.

A high technology exporters scheme provides assistance to companies which have Management Investment Company or Australian Industry Development Corporation equity or financial interest.

Austrade administers the Innovative Agricultural Marketing Program which can provide up to $250,000 per year to assist rural producers, processors, manufacturers and marketers to bring to fruition innovative products and ideas for marketing rural products in export markets.

As an incentive to new small exporters, Austrade services are provided free of charge for 2 years. In recognition of achievement, Austrade runs an annual program of export awards.

Overseas projects

Austrade assists Australian businesses to obtain contracts associated with overseas projects. Specialist Trade Commissioners are stationed at strategic global locations to keep Australian businesses informed on developments. They identify project opportunities and provide early warning of project proposals and priorities.

Financial assistance for overseas projects is available from a Projects Market Development Fund. To improve the ability of Australian exporters to participate in the international projects market Austrade conducts educational seminars and workshops.

Overseas services

Through its overseas network, based upon the Trade Commission Service, Austrade is able to channel information on commercial opportunities direct to Australian companies. Trade Commissioner offices employ local staff who are expert in the language and marketing system of the countries in which they are located.

The overseas offices provide advice on commercial opportunities and economic developments and can assist in making representations to governments on such matters as tariffs, quarantine requirements or industrial standards. They can also help to resolve trade disputes. On a cost-recovery basis Trade Commissioners can obtain status reports on overseas agents or buyers.

Some overseas Austrade offices have showrooms which can be used to display and promote Australian products. Retail store promotions can also be arranged for Australian exporters. For a fee, overseas offices will arrange appointments, assist with interpreting, Customs clearance of samples and follow up contracts or provide use of office facilities such as photocopying, telex and telephone.

A brief account of the origins of the Trade Commissioner Service is available in *Year Book* No. 51.

International investment

Services have been developed for investment, joint ventures, technology transfer and industrial cooperation between Australian and foreign firms where such activity is directed towards increasing the international competitiveness and export capability of Australian industry. This may relate to investment by an overseas company in Australia or by an Australian company overseas.

Publications and videos

Guidance for exporters is available in a range of Austrade publications covering markets, export planning, country business guides and overseas import requirements.

An informative set of ten video tapes providing detailed profiles of Australia's most important markets are available from Austrade. Associated with eight of these videos are books which examine the economy, political systems, business practices, trade regulations and other important aspects of each market. Titles of the videos are Japan, EEC, China, India, United Kingdom, Thailand, New Zealand, Middle East, United States and Getting it Right Back Home.

Company export planning

Company Export Planning (CEP) is a service offered by Austrade to Australian exporters to assist the identification of a product's export potential, specific country markets and strategies for export.

Companies using the service have access to consultants for the preparation of export capability reports on products, research on up to three potential markets and Austrade overseas staff experience of the markets chosen. Advice can be obtained on product potential, distribution methods and potential agents supplemented by information on local culture, demography, market size, competition and related details.

Trade displays and publicity overseas

Austrade arranges participation at trade fairs, exhibitions and displays throughout the world. Australian exporters are encouraged to use the displays as an opportunity to make direct sales, obtain new markets, negotiate contracts and gauge market reaction to Australian products and services. Austrade provides space and a coordinated stand design and pays half of all direct costs of mounting a display including expenses of design, space rental, construction and publicity.

To create an awareness of Australian goods and services in overseas markets, Austrade undertakes advertising and publicity including direct mail and targeted trade media publicity. Special publications in English and other languages are produced. Product information is distributed to leading journals and newspapers in addition to direct advertising.

Trade missions and buying visits

Trade missions for specific industries or groups of firms and survey missions designed to explore prospects in new or developing areas are arranged regularly. Austrade also coordinates a program of visits to Australia by overseas buyers.

Foreign Trade Relations

Trade policy

As a major producer of primary commodities and manufactured goods, including a wide range of minerals and agricultural commodities, the Australian economy is very dependent on international trade. Australia is a major exporter of coal, iron ore, bauxite, alumina, manganese, nickel, mineral sands, diamonds, gold, uranium, natural gas, wool, meat, wheat, coarse grains, rice, cotton and sugar. Imports of capital equipment form a high proportion of total imports. There is a large market for imported manufactured goods even though Australia has extensive manufacturing industry. Trade in services is heavily imbalanced in favour of the rest of the world.

Australia is dependent on stable international trade markets for commodities, and trade policy objectives include:

- maintaining an open international trade and payments system;
- maintaining an equitable framework of multilateral rules based on non-discrimination, predictability and transparency which provides for progressive trade liberalisation;
- ensuring fair and reasonable access to markets for agricultural products, restraints on subsidised competition in third world markets and stability in commodity markets;
- achieving fair and stable prices for minerals and market security;
- promoting employment through increased exports in general and increased exports of manufactures and services in particular.

Further, Australia maintains a substantial involvement in the General Agreement on Tariffs and Trade (GATT), the Organisation for Economic Cooperation and Development (OECD) and the United Nations Conference on Trade and Development (UNCTAD). It also participates in the activities of a number of international bodies concerned with trade in particular commodities.

In relation to trade with particular countries, Australia has representation in all major markets and has bilateral trade agreements with many of its major trading partners. The agreements normally provide for reciprocal favoured nation treatment for imports, close consultation on trade matters and, in many instances, the operation of a joint committee or commission. In some cases the agreements also embrace industrial and technical cooperation and business investment. (Some details of agreements with particular countries are included in the 1986 and earlier issues of the *Year Book*).

General Agreement on Tariffs and Trade—GATT

The GATT is an international treaty which provides a framework for the conduct of world trade. The GATT provides a forum for resolution of trade problems and its objective is an expansion of world trade through a reduction in trade barriers, leading to general economic growth and development.

The eighth Round of GATT trade negotiations was launched at Punta del Este in Uruguay during 1986. Australia is making a substantial commitment to the success of the Uruguay Round. As well as covering merchandise trade this round encompasses negotiations on rules to govern trade in services, and trade-related intellectual property rights and investment measures.

In recent years world trade in many agricultural commodities has been in crisis due to factors largely beyond Australian control. At the beginning of the Uruguay Round, Australia sought a stronger voice by initiating the Cairns Group of Fair Traders in Agriculture. The Group, comprising fourteen developed and less developed countries, has a common interest in securing a more stable trade environment for agricultural products. The main objectives for Australia in the Uruguay Round are to reduce subsidies and market access barriers particularly affecting agricultural trade, to improve the rules on the use of subsidies and emergency protection, to reduce protection affecting Australian exports, to make the GATT dispute settlement mechanisms more effective and to devise rules to keep services trade policies fair.

Australia, like other developed country contracting parties to the GATT, provides tariff preferences for developing countries under its Australian System of Tariff Preferences (ASTP). These preferences are unilateral, non-reciprocal and non-contractual. Margins of preference are 5 per cent below the General Tariff rate.

Organisation for Economic Cooperation and Development—OECD

In association with other members of the OECD, a communique was issued following the Ministerial Council Meeting in May 1987 which adopted principles and actions covering both domestic and international agricultural policy. This reflected many of the points put forward by the Prime Minister in his statement on 'Resolving the World Agricultural Crisis' made earlier at the European Management Forum in February 1987.

United Nations Conference on Trade and Development—UNCTAD

Australia actively participated in UNCTAD to achieve an outcome to its Seventh Session in July 1987 which reinforces the GATT agricultural trade objectives. Australia has advanced specific proposals for UNCTAD work to complement work in the GATT Uruguay Round. In particular, at the 33rd session of the UNCTAD Trade and Development Board and at subsequent meetings, analytical studies were proposed on agricultural protectionism and non-tariff trade barriers.

Collection and Presentation of Statistics

Source of data

Foreign trade statistics are compiled by the Australian Bureau of Statistics from documentation submitted by exporters and importers or their agents to the Australian Customs Service as required by the Customs Act.

Scope of the statistics

The statistics presented below are, with one exception, recorded on a *general trade* basis, i.e., total exports include both Australian produce and re-exports, and total imports comprise goods entered directly for home consumption together with goods imported into bonded warehouses. The statistics of import clearances, however, are recorded on a *special trade* basis, i.e., clearances comprise goods entered directly for home consumption together with goods cleared into the home market from bonded warehouses. Exports of Australian produce are goods, materials or articles which have been produced, manufactured or partly manufactured in Australia, except goods which were originally imported and have undergone only repair or minor operations which leave them essentially unchanged. Re-exports are goods, materials or articles originally imported which are exported either in the same condition in which they were imported or after undergoing repair or minor operations which leave them essentially unchanged. Minor operations include blending, packaging, bottling, cleaning, sorting, husking or shelling. Total exports are the aggregate of exports of Australian produce and re-exports.

The following are excluded from recorded trade statistics:

(a) direct transit trade, i.e. goods being trans-shipped or moved through Australia for purposes of transport only;

(b) migrants' and passengers' effects exported or imported; and parcel post exports and imports of small value, for which Customs entries are not required;

(c) certain materials under inter-governmental agreements for defence and similar projects for which Customs entries are not required;

(d) ships and aircraft engaged in the transport of passengers or goods between Australia and other countries;

(e) the sale or purchase of certain ships intended for use on overseas routes;

(f) the sale or purchase, prior to 1 July 1987, of any aircraft intended for use on overseas routes. From 1 July 1987, purchases of aircraft (and parts and components) intended for use on overseas routes are included in recorded import statistics. Sales of aircraft (and parts and components) which were imported into Australia on or after 1 July 1987 for use on overseas routes are included in recorded export statistics.

(g) fish and other sea products landed in Australia or abroad directly from the high seas by Australian ships;

(h) export consignments where the value of the goods in each transaction is less than $500;

(i) entries lodged on informal clearance documents (ICDs) for values not exceeding $500. In addition, from 21 October 1985 onwards, ICDs for postal articles valued between $250 and $1,000 are excluded;

and for imports only:

(j) bunkers and stores supplied to ships and aircraft prior to arrival in Australia.

Statistical period

Exports

Exports are recorded statistically in the month the entries are processed by the Australian Customs Service. Regular exporters or their agents may provide details of their export shipments on a periodic rather than an individual shipment basis by submitting weekly or monthly returns. These 'periodic returns' must be submitted to the Australian Customs Service within seven days of the end of the period in question covering all shipments during that period. All other exporters are required to report each individual shipment prior to the ship's departure. Approximately 90 per cent of monthly export values are recorded on periodic returns. The statistical month for Customs outports (generally ports other than those at which the main Customs Office in each State is located) closes on the twenty-first of each month, whereas for main ports the statistical month is the calendar month. Because of these factors, export statistics for a particular month do not necessarily represent all of the commodities actually exported during that month. Analysis of past data has shown that in aggregate approximately 40 per cent of export trade by value for a particular month reflects actual shipments during that month, 55 per cent by value was actually exported during the previous month with the remaining 5 per cent by value exported in earlier months. For individual commodities the percentage by value representing actual exports in a month may vary considerably.

Imports

Imports are recorded statistically in the calendar month in which the import entries were both finalised by the Australian Customs Service and passed to the Australian Bureau of Statistics (ABS) for further processing. Import entries may be lodged early using the check-to-arrive system or the documents may be delayed because of various validation checks carried out by Customs prior to the entries being passed to the ABS. Import statistics for a particular month do not necessarily represent entries lodged or commodities actually imported during the month in question. Analysis of past data has shown that in aggregate approximately 70 per cent of import trade by value recorded for a particular month was actually imported during that month, 25 per cent was actually imported during the previous month with the remaining 5 per cent being imported in earlier months. For individual commodities the percentage by value representing actual imports in a month may vary considerably.

State

For exports, State statistics comprise the State of origin for Australian produce. State of origin is defined as the State in which the final stage of production or manufacture occurs.

For imports, the State is that in which the import entry was lodged with the Australian Customs Service. The port of lodgement of the import entry is not necessarily the port of discharge of the goods. Goods forwarded interstate after import, whether in containers or not, are recorded as being imported at the port of lodgement of the import entry.

Valuation

Exports

Goods actually sold to overseas buyers prior to shipment are valued at the free-on-board (f.o.b.) Australian port of shipment equivalent of the actual price at which the goods were sold. Goods shipped on consignment are valued at the f.o.b. Australian port of shipment equivalent of the current price offering for similar goods of Australian origin in the principal markets of the country to which the goods are dispatched for sale. The recorded value of exports includes the value of the outside package, other than international containers used for containerised cargo.

Imports

The recorded value of imports is the customs value (formerly referred to as the value for duty). On 30 November 1981, Australia changed its system of valuation from the Brussels Definition of Value (BDV) to the GATT Agreement on Customs Valuation. The Agreement reflects one of a number of trade related codes of conduct established during the round of Multilateral Trade Negotiations concluded in 1979. The GATT Agreement differs from the BDV in that it offers a set of practical rules on the valuation of imports rather than a list of conceptual guidelines. Under the Agreement the primary basis for establishing the customs value is the price actually paid or payable, provided a number of conditions are met. The most important condition is that the buyer and seller must be independent of each other. If the conditions are not met, the practical rules are used to determine the customs value. The recording of the value of imports remains on a free-on-board (f.o.b.) basis (i.e. the charges and expenses involved in delivering the goods from the place of exportation to Australia are excluded). As for exports, the recorded value of imports includes the value of outside packages, other than international containers used for containerised cargo. For details of the method of valuation used prior to 30 November 1981, *see Year Book* No. 66.

Merchandise exports and imports

In accordance with standards recommended by the United Nations:

(a) *Merchandise exports* are defined as all goods which subtract from the stock of material resources in Australia as a result of their movement out of the country. Merchandise exports, therefore, exclude goods exported with the reasonable expectation of re-import within a limited time, for example, goods for temporary exhibition outside Australia.

(b) *Merchandise imports* are defined as all goods which add to the stock of material resources in Australia as a result of their movement into the country. Merchandise imports, therefore, exclude goods imported with the reasonable expectation of re-export within a limited time, for example, goods for temporary exhibition in Australia.

From July 1985, non-merchandise trade is excluded from Australia's export and import statistics. This is in accordance with United Nations' recommendations and practices adopted by Australia's major trading partners. Statistics for periods prior to July 1985 included in this publication have been adjusted to be comparable with data from July 1985 onwards and, consequently, will not be directly comparable with previous publications.

For periods prior to 1 July 1987, trade in gold coins, whether or not they are legal tender, and other coins which are legal tender is classified as non-merchandise trade; for periods from 1 July 1987 these commodities are excluded from non-merchandise trade and are included in total exports and imports. The explanation for the change and for purposes of comparison, exports and imports data by country for 1985–86, 1986–87 and 1987–88 are shown in Appendix A of the January 1989 issue of *Exports, Australia* (5432.0).

Commodity classifications

Harmonized Tariff

Australian Harmonized Export Commodity Classification

For periods up to the end of December 1987, exports and imports were classified according to the items of the *Australian Export Commodity Classification* (AECC) and the *Australian Import Commodity Classification* (AICC) respectively which are based on the *Standard International Trade Classification, Revision 2* (United Nations Statistical Papers, Series M, No. 34, Revision 2 1975).

From 1 January 1988, import and export data have been reported solely according to the Harmonized Tariff and the *Australian Harmonized Export Commodity Classification* respectively. Statistical output is now presented according to the codes and description of the *Standard International Trade Classification* (SITC) Revision 3, which is closely aligned with the Harmonized commodity classifications. However, commodity statistics for the period from 1 January 1988 shown in this issue of the *Year Book* have been recompiled according to the divisions of the AECC and AICC, so as to present annual figures for the period 1985–86 to 1987–88 on a comparable basis. Subsequent issues of the *Year Book* will show export and import data on a SITC (Revision 3) basis.

Australian Standard Commodity Classification

The *Australian Standard Commodity Classification* (ASCC) has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0 and 1208.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items. In a number of cases, however, due to the differences between production, import and export items, comparability is only achieved at fairly broad aggregate levels. In the ASCC, commodities are grouped under industries (as defined in the *Australian Standard Industrial Classification)* in which they are typically produced. *(See* Chapter 18, Manufacturing and Retail Trade).

Australian Standard Industrial Classification—ASIC, industry of origin

Export and import statistics are classified according to subdivisions of ASIC. The statistics are compiled by allocating statistical items of AECC and AICC to the ASIC industry of origin with whose main economic activities the commodities are primarily associated. A full description of ASIC classes is contained in the publication *Australian Standard Industrial Classification, Vol. 1—The Classification* (1201.0).

Broad Economic Categories

Exports and imports of merchandise are classified according to the nineteen categories of the United Nations classification of Broad Economic Categories (BEC). BEC attempts to classify foreign trade statistics for the purposes of general economic analysis according to the main end use of the commodities traded.

Country

For the purposes of foreign trade statistics, a country is defined as a geographical entity which trades, or has the potential to trade, with Australia in accordance with Australian Customs provisions. External territories under Australian administration *are* treated separately while self-governing territories and dependant territories under the administration of other countries *may* be treated as individual countries in Australian foreign trade statistics.

Exports: for exports, country refers to the *country* to which the goods were consigned at the time of export. Where it was found to be impossible to determine the destination, goods are recorded as *Destination unknown.*

Imports: for imports, *country* refers to the country of origin of the goods which is defined as the country of production for customs purposes. Where it is found to be impossible to determine the origin, goods are recorded as *Origin unknown.*

Quantity data

Where quantities are shown they are generally expressed in terms of the normal unit of quantity used in the appropriate industry and as specified in the AECC and AICC. Quantities are not tabulated in respect of statistical items for which there is no appropriate unit of quantity (e.g. a statistical item which covers a number of commodities that cannot be recorded under a single unit of quantity).

Excess of exports or imports

The excess of the value of exports or imports does not represent the balance of trade. The balance of trade is the excess of exports or imports on a *balance of payments* basis. Details of the adjustments (relating to coverage, timing and valuation) made to total recorded exports and imports for balance of payments purposes, are set out in the annual publication *Balance of Payments, Australia* (5303.0).

Treatment of confidential data

To ensure that information about the activities of particular businesses is not disclosed, it is necessary to restrict the release of statistics of certain commodities. These restrictions do not affect total export or import figures but they can affect statistics at all levels.

Foreign Trade Statistics

Total foreign trade

The following table shows the total Australian trade with foreign countries from 1982–83 to 1987–88.

FOREIGN TRADE
($ million)

Year	*Exports*	*Imports*	*Excess of exports (+) or imports (–)*
1982–83	21,454	21,216	+238
1983–84	24,013	23,540	+473
1984–85	29,708	29,049	+659
1985–86	32,795	34,691	–1,896
1986–87	35,783	37,022	–1,239
1987–88*(a)*	40,943	40,594	+349

(a) For periods from 1 July 1987, trade in gold coins, whether or not they are legal tender, and other coins which are legal tender is included in total exports and total imports. For periods prior to 1 July 1987 these commodities are included in non-merchandise trade.

The following table shows particulars of non-merchandise trade for recent years.

NON-MERCHANDISE TRADE
($ million)

Year	*Exports*	*Imports*
1982–83	668	590
1983–84	753	521
1984–85	834	971
1985–86	1,418	1,045
1986–87	1,392	1,101
1987–88*(a)*	1,455	1,342

(a) For periods prior to 1 July 1987, trade in gold coins, whether or not they are legal tender, and other coins which are legal tender is included in non-merchandise trade. For periods from 1 July 1987 these commodities are inlcuded in total exports and total imports.

Classified summary of Australian foreign trade

The following table shows exports and imports according to divisions of the Australian Export and Import Commodity Classifications (based on the *Standard International Trade Classification* revision 2). Data for the period January to June 1988, while collected according to the codes of the Australian Harmonized Export Commodity Classification and the Harmonized Tariff, have been recompiled on the basis of the AECC and AICC, so as to present annual figures for the period 1985–86 to 1987–88 on a comparable basis.

EXPORTS AND IMPORTS: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS
($'000)

Division No.	Description	*Exports*			*Imports*		
		1985–86	*1986–87*	*1987–88*	*1985–86*	*1986–87*	*1987–88*
00	Live animals	279,471	308,525	295,330	81,892	112,824	147,322
01	Meat and meat preparations	1,700,569	2,249,451	2,552,508	16,674	16,334	19,236
02	Dairy products and birds' eggs	437,109	467,584	503,163	78,344	80,963	87,393
03	Fish, crustaceans and molluscs, and preparations thereof	484,834	600,500	729,867	333,381	422,635	409,329
04	Cereals and cereal preparations	*(a)*3,928,636	*(a)*2,800,645	*(a)*2,310,037	68,528	72.846	73,431
05	Vegetables and fruit	371,825	550,857	601,156	262,823	*(b)*271,545	*(b)*282,237
06	Sugar, sugar preparations, honey	649,537	693,957	734,553	22,927	28,333	33,578
07	Coffee, tea, cocoa, spices and manufactures thereof	57,140	65,271	63,756	418,781	404,918	378,246
08	Feeding stuff for animals (not including unmilled cereals)	147,819	208,760	247,068	37,828	54,499	50,635
09	Miscellaneous edible products and preparations	29,170	47,965	75,469	96,958	147,078	186,671
11	Beverages	69,528	132,904	225,303	199,890	210,683	234,001
12	Tobacco and tobacco manufactures	15,179	18,654	24,762	97,693	116,140	110,561
21	Hides, skins and furskins, raw	395,373	543,313	684,980	3,788	3,841	9,929
22	Oil seeds and oleaginous fruit	51,247	41,074	31,534	7,744	9,675	18,599
23	Crude rubber (including synthetic and reclaimed)	4,331	5,618	7,171	75,845	87,713	99,480
24	Cork and wood	264,454	361,085	394,834	328,438	297,560	382,477
25	Pulp and waste paper	14,673	27,564	31,419	103,739	171,103	224,802
26	Textile fibres and their wastes (other than wool tops) (not manufactured into yarn or fabric)	3,207,154	3,871,492	5,599,966	134,632	150,374	164,927
27	Crude fertilisers and crude minerals (excluding coal, petroleum and precious stones)	152,617	*(c)*103,384	173,823	259,961	224,207	248,380
28	Metalliferous ores and metal scrap	*(d)*4,850,663	*(d)*4,853,082	*(d)*5,224,529	26,148	38,817	68,912
29	Crude animal and vegetable materials, n.e.s.	70,470	97,354	117,256	82,417	99,991	104,337
32	Coal, coke and briquettes	5,239,732	5,456,081	4,833,594	3,041	2,788	5,051
33	Petroleum, petroleum products and related materials	2,276,015	1,622,111	1,943,353	1,923,951	1,742,177	2,036,447
34	Gas, natural and manufactured	460,851	230,944	245,185	384	4,255	4,752
41	Animal oils and fats	116,419	89,679	117,594	1,026	2,020	1,467
42	Fixed vegetable oils and fats	14,033	22,251	12,618	43,612	64,271	89,721
43	Animal and vegetable oils, fats, and waxes of animal or vegetable origin	11,850	11,370	8,433	48,974	*(e)*25,146	*(e)*17,218
51	Organic chemicals	*(f)*53,916	*(f)*50,784	95,961	*(g)*765,610	*(h)*880,624	*(i)*1,105,896
52	Inorganic chemicals	*(j)*58,601	65,763	78,996	*(k)*248,714	*(l)*321,597	*(l)*518,589
53	Dyeing, tanning and colouring materials	*(m)*29,536	*(m)*35,084	*(m)*81,401	143,100	189,043	194,571

EXPORTS AND IMPORTS: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS—*continued*

($'000)

Division No.	Description	*Exports*			*Imports*		
		1985–86	*1986–87*	*1987–88*	*1985–86*	*1986–87*	*1987–88*
54	Medicinal and pharmaeutical products	147,478	166,307	204,166	393,036	507,939	647,264
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	58,671	57,208	76,035	220,834	241,726	269,216
56	Fertilisers, manufactured	2,316	5,339	7,066	146,587	139,771	137,967
57	Explosives and pyrotechnic products	7,748	5,401	6,294	15,988	14,099	30,361
58	Artificial resins and plastic materials, and products	133,238	137,479	168,244	(*n*)679,018	(*n*)783,693	(*n*)923,839
59	Chemical materials and products, n.e.s.	101,813	140,003	169,749	411,511	393,546	(*o*)446,747
61	Leather, leather manufactures, n.e.s. and dressed furskins	88,473	118,410	171,609	126,074	151,549	167,990
62	Rubber manufactures, n.e.s.	19,095	41,076	68,350	449,521	461,864	571,022
63	Cork and wood manufactures (excluding furniture)	7,810	(*q*)9,157	(*q*)12,942	167,827	169,075	188,549
64	Paper, paperboard and manufactures, and articles of paperpulp, of paper or of paperboard	74,642	103,887	98,782	842,161	1,012,783	1,206,474
65	Textile yarn, fabrics, made-up articles, n.e.s. and related products	221,325	246,004	311,373	1,678,333	(*s*)1,831,296	(*t*)1,926,516
66	Non-metallic mineral manufactures, n.e.s.	(*u*)150,018	(*u*)174,755	(*u*)259,501	(*v*)653,664	(*v*)712,597	(*v*)849,359
67	Iron and steel	580,415	590,184	504,073	608,939	634,441	836,092
68	Non-ferrous metals	1,947,667	2,307,831	3,223,222	164,653	203,039	249,728
69	Manufactures of metal, n.e.s.	190,230	243,444	275,977	(*w*)928,687	(*w*)1,009,115	(*w*)1,130,566
71	Power generating machinery and equipment	229,152	295,556	365,784	991,454	1,216,203	1,210,055
72	Machinery specialised for particular industries	240,785	305,437	313,752	(*x*)2,052,115	(*y*)1,736,810	(*y*)1,992,991
73	Metalworking machinery	27,353	26,018	37,957	384,961	481,443	385,719
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	179,502	236,294	285,448	(*z*)1,853,658	(*z*)1,983,543	(*z*)2,284,175
75	Office machines and automatic data processing equipment	219,638	389,994	437,879	2,173,629	2,557,234	2,646,299
76	Telecommunications and sound recording and reproducing apparatus and equipment	66,435	87,574	116,196	1,466,493	1,497,599	1,508,104
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	181,461	(*aa*)255,642	(*aa*)289,992	(*ab*)1,842,672	(*ab*)1,884,625	2,141,571
78	Road vehicles (including air cushion vehicles)	261,557	438,692	524,445	3,771,337	2,720,006	3,139,460
79	Other transport equipment	205,951	577,042	374,369	605,174	1,345,116	1,060,357
81	Sanitary, plumbing, heating and lighting fixtures and fittings, n.e.s.	10,079	15,563	13,978	80,259	75,368	97,646
82	Furniture and parts thereof	22,366	33,594	40,703	237,702	235,303	254,671
83	Travel goods, handbags and similar containers	2,982	4,174	4,269	146,773	179,697	186,571
84	Articles of apparel and clothing accessories	23,277	39,274	57,889	567,859	656,513	721,090
85	Footwear	6,750	9,416	10,139	207,614	250,764	269,831
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	162,425	176,695	214,264	844,775	906,984	961,050

EXPORTS AND IMPORTS: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS—*continued*

($'000)

Division No.	*Description*	*Exports*			*Imports*		
		1985–86	*1986–87*	*1987–88*	*1985–86*	*1986–87*	*1987–88*
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s., watches and clocks	203,108	249,570	278,033	*(ac)*635,477	*(ac)*719,959	*(ad)*716,503
89	Miscellaneous manufactured articles, n.e.s.	228,421	325,394	404,908	*(ae)*1,948,610	*(ae)*2,160,228	*(ae)*2,367,375
9A	Commodities and transactions of trade, n.e.s. *(af)(ag)*	130,073	2,337,065	3,452,339	1,476,959	1,893,984	1,759,026
98	Gold coin and other coin being legal tender *(ah)*	. .	. .	118,143	. .	. .	1,930
	Total trade *(ai)(aj)*	**32,795,007**	**35,782,583**	**40,943,492**	**34,691,197**	**37,021,910**	**40,594,330**

(a) Excludes AECC items 042.12.01, 042.12.03, 042.21.15 and 042.22.00. *(b)* Excludes AICC items 054.20.27 and 054.20.39. *(c)* Excludes AECC item 278.30.05. *(d)* Excludes AECC items 287.31.00, 287.70.00, 287.93.07 and 287.99.19. *(e)* Excludes AICC item 431.10.08. *(f)* Excludes AECC item 511.30.09 (from 1.11.85 to 28.2.87). *(g)* Excludes AICC items 511.13.01, 511.39.01 (from 1.6.86 to 31.8.86) 511.39.07, 511.40.01, 512.17.02, 512.17.15, 513.79.13 (to 31.07.85), 513.90.01, 513.90.13 (to 30.11.85), 513.90.15 and 513.90.39. *(h)* Excludes AICC items 511.13.01, 511.39.01 (from 1.6.86 to 31.8.86), 511.39.07, 511.40.01, 512.17.02, 512.17.15, 513.90.01, 513.90.15, 513.90.39 and 516.14.00. *(i)* Excludes AICC items 511.13.01, 511.39.07, 511.39.24, 511.40.01 (to 31.10.87), 512.17.02, 512.17.15, 513.90.01 (to 30.11.87), 513.90.15 (to 31.10.87), 513.90.39 (to 31.10.87) and 516.14.00. *(j)* Excludes AECC items 522.49.00 (to 30.11.85). *(k)* Excludes AICC item 522.13.00. *(l)* Excludes AICC items 522.13.00, 522.43.00 and 523.23.00. *(m)* Excludes AECC item 533.10.00 (to 30.11.87). *(n)* Excludes AICC item 582.70.04. *(o)* Excludes AICC item 598.99.13 (from 1.10.87 to 31.10.87). *(q)* Excludes AECC item 634.32.00. *(s)* Excludes AICC item 651.43.09. *(t)* Excludes AICC items 651.43.09 and 657.33.04 (from 1.11.87). *(u)* Excludes AECC item 667.21.00. *(v)* Excludes AICC item 661.20.01. *(w)* Excludes AICC items 691.10.05, 694.01.02 and 695.39.60. *(x)* Excludes AICC item 723.30.01. *(y)* Excludes AICC items 721.19.07, 721.19.29 and 723.30.01. *(z)* Excludes AICC items 749.10.70 and 749.10.76. *(aa)* Excludes AECC item 775.77.01. *(ab)* Excludes AICC item 775.86.01 (to 30.11.86). *(ac)* Excludes AICC item 881.11.45. *(ad)* Excludes AICC items 881.11.45 and 882.23.25 (from 1.7.87). *(ae)* Excludes AICC item 899.31.09. *(af)* Includes export commodities above subject to a confidentiality restriction and not included in the relevant AECC Division. *(ag)* Includes imports commodities above subject to a confidentiality restriction and not included in the relevant AICC Division. *(ah)* Division 98 is a dummy code used from 1 July 1987 to record the value of these commodities as merchandise trade. Trade in these commodities for periods prior to 1 July 1987 are recorded as non-nerchandise. *(ai)* Total trade excludes non-merchandise trade. *(aj)* Includes from 1 July 1987 exports and imports of gold coins, whether or not they are legal tender, and other coins which are legal tender. For prior periods the trade in these commodities is recorded as non-merchandise.

EXPORTS OF MAJOR COMMODITIES

Description (AECC No.)	*Quantity (tonnes)*			*Value ($'000)*		
	1985–86	*1986–87*	*1987–88*	*1985–86*	*1986–87*	*1987–88*
Aircraft and associated equipment and parts thereof (792)	..	..	..	163,271	491,714	215,062
Alumina (aluminium oxide) (287.32)	7,426,429	8,070,634	8,309,948	1,377,498	1,526,146	1,664,108
Aluminium (684)	646,347	691,252	..	1,061,049	1,322,321	1,892,663
Artificial resins and plastics (582, 583)	..	..	..	121,746	118,233	77,322
Barley (043.00)	4,161,206	2,191,057	1,451,270	535,746	254,090	181,639
Cars, other road vehicles and parts thereof (78)	..	..	..	261,557	438,692	524,445
Cheese (024.00)	66,140	62,117	68,490	165,514	164,328	186,791
Coal (anthracite, bituminous) (except briquettes) (325.10.03, 05, 13)	90,275,166	97,718,276	102,319,970	5,201,812	5,427,651	4,754,353
Copper ores and concentrates (287.11)	266,071	166,933	185,036	121,398	69,800	128,806
Copper, refined, unwrought (682.12)		76,798	76,685	93,994	149,461	163,191
Cotton, not carded or combed (263.10)	241,240	250,624	176,479	378,267	344,978	351,299
Crustaceans and molluscs (except canned or bottled) (036)	22,646	23,507	27,848	414,719	488,535	606,939

EXPORTS OF MAJOR COMMODITIES—*continued*

	Quantity (tonnes)			*Value ($'000)*		
Description (AECC No.)	*1985–86*	*1986–87*	*1987–88*	*1985–86*	*1986–87*	*1987–88*
Fruit and nuts, including fruit preserves and preparations (057, 058)	..	..	..	264,801	373,451	396,443
Gas, natural and manufactured (341)	..	..	..	460,851	230,944	245,185
Gold (971)	..	..	..	785,970	1,347,631	2,445,357
Hides and skins, bovine and equine (211.10, 20)	104,734	..	..	199,284	258,287	328,741
Iron and steel (67)	1,450,664	..	n.a.	580,013	590,184	494,144
Iron ore and concentrates (except roasted iron pyrites) (281.50, 60)	82,375,006	73,155,815	88,488,031	1,932,305	1,754,016	1,804,867
Lead and lead alloys (including silver-lead) unwrought (685.11, 12, 13)	332,546	288,171	306,997	281,126	291,485	441,490
Machinery and equipment, power generating (71)	..	..	..	229,152	295,556	365,784
Machinery specialised for particular industries (72)	..	..	..	240,785	305,437	313,752
Meat of bovine animals (011.11, 12)	477,031	565,494	639,589	1,317,230	1,753,322	2,035,045
Meat, fresh, chilled or frozen—sheep, lambs and goats (011.20)	144,003	167,623	166,163	218,526	295,716	309,224
Milk and cream (except fresh) (022.41, 42, 43, 49)	141,929	155,579	..	181,922	230,255	234,091
Nickel and nickel alloys, unwrought (683.10)	..	..	..	123,220	129,370	151,662
Nickel mattes, sinters, etc. (287.22)	..	..	..	364,313	253,726	151,638
Office machines and automatic data processing equipment (75)	..	..	..	219,638	389,994	437,879
Petroleum oils, crude (333)	..	..	..	1,152,522	786,660	955,404
Petroleum products (334, 335)	..	..	..	1,123,493	835,451	987,949
Photographic and cinematographic supplies (882)	..	..	..	158,903	183,675	217,538
Sheep and lambs, live (001.21)	..	..	..	170,643	206,077	222,218
Skins (excluding pieces) sheep and lamb, with wool on (211.60.03–22)	91,221	..	..	177,775	262,201	327,412
Sorghum, unmilled (045.92)	1,150,193	817,853	415,378	166,259	90,624	46,119
Sugar—from cane (except icing sugar) (061.10.01, 03; 061.20.01)	2,748,340	2,470,354	2,774,492	616,000	634,450	684,483
Titanium and zirconium ores and concentrates (287.93)	1,876,242	1,714,866	1,801,759	213,583	266,984	379,727
Uranium, thorium ores and concentrates (286.00)	21,820	16,445	14,935	306,455	397,428	419,237
Wheat (including spelt) and meslin, unmilled (041)	16,148,806	14,789,431	11,972,038	2,969,501	2,168,282	1,718,450
Wood chips (246.02.03, 04)	2,421,610	2,898,887	2,884,025	248,531	345,786	376,868
Wool, greasy or fleece—washed (268.10)	607,900	677,196	663,545	2,285,542	2,839,703	4,274,007
Wool degreased (268.20)	90,870	105,097	105,429	514,572	657,351	943,877
Zinc and zinc alloys, unwrought (686.10)	212,412	232,654	222,280	213,302	288,893	267,348
Zinc ores and concentrates (287.50)	975,919	798,175	981,995	240,829	209,606	283,412
Total major commodities	..	..	..	27,909,084	29,482,224	33,120,215
Total *(a)*	**..**	**..**	**..**	**32,795,007**	**35,782,583**	*(b)***40,943,492**

(a) Total exports excludes non-merchandise trade. *(b)* Includes, from 1 July 1987, exports of gold coins, whether or not they are legal tender, and other coins which are legal tender. For prior periods the trade in these commodities is recorded as non-merchandise.

EXPORTS BY AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION
($ million)

ASIC Division/Subdivision	*1985–86*	*1986–87*	*1987–88*
Agriculture, forestry, fishing and hunting			
Agriculture	6,618.5	6,125.0	7,131.2
Forestry and logging	3.0	3.8	4.2
Fishing and hunting	11.5	22.0	68.5
Total	*6,633.0*	*6,150.8*	*7,203.9*
Mining			
Metallic minerals	2,983.9	2,903.7	3,437.1
Coal	5,205.4	5,430.9	4,758.9
Oil and gas	1,613.4	1,017.6	1,200.6
Construction materials	1.2	2.0	2.0
Other non-metallic minerals	179.8	120.2	141.4
Total	*9,983.7*	*9,474.4*	*9,540.0*
Manufacturing			
Confidential items falling within ASIC classes 0124 to 2963 incl.	—	—	—
Food, beverages and tobacco	4,493.1	5,663.0	6,433.3
Textiles	1,158.3	1,303.4	1,559.4
Clothing and footwear	33.2	52.7	74.9
Wood, wood products and furniture (including sheet metal furniture (3152)	296.5	407.1	456.4
Paper, paper products, printing and publishing	153.2	199.8	213.5
Chemical, petroleum and coal products	1,676.6	1,421.4	1,831.5
Non-metalic mineral products	56.7	76.9	104.7
Basic metal products	5,086.5	6,044.6	7,785.7
Fabricated metal products (excluding sheet metal furniture (3152))	168.4	235.0	(*a*)376.1
Transport equipment	623.0	1,239.7	1,184.9
Other machinery and equipment	1,424.4	1,901.3	2,201.0
Miscellaneous manufacturing	279.8	400.5	563.3
Total	*15,449.4*	*18,945.2*	*22,666.6*
Other industries			
Wholesale and retail trade, business services	29.4	36.4	38.3
Confidential items; waste scrap n.e.c.; Second hand goods n.e.c.; Special goods	699.5	1,175.8	1,376.6
Total	*728.9*	*1,212.2*	*1,414.9*
Total *(b)*	**32,795.0**	**35,782.6**	(*a*)**40,943.5**

(a) Includes, from 1 July 1987, exports or imports of gold coins, whether or not they are legal tender, and other coins which are legal tender. For prior periods the trade in these commodities is recorded as non-merchandise. *(b)* Total trade excludes non-merchandise trade.

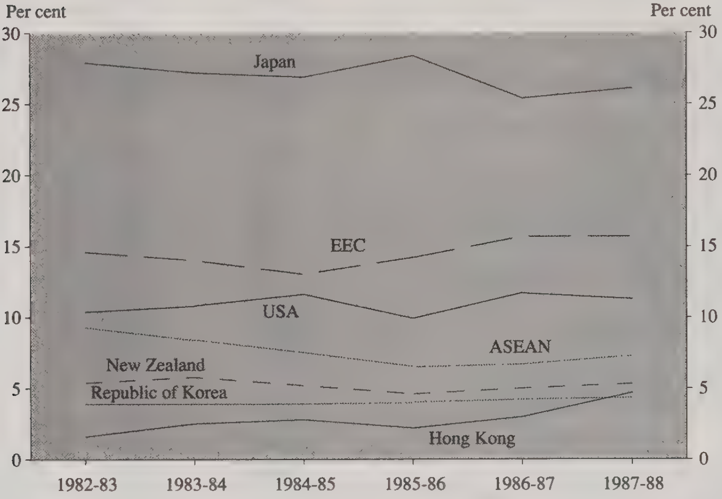
IMPORTS BY AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION
($ million)

ASIC Division/Subdivision	*1985–86*	*1986–87*	*1987–88*
Agriculture, forestry, fishing and hunting			
Agriculture	518.0	571.4	610.7
Forestry and logging	4.0	3.5	3.4
Fishing and hunting	6.0	5.6	11.4
Total	*528.0*	*580.6*	*625.5*
Mining			
Metallic minerals	11.6	24.2	37.2
Coal	1.1	0.3	0.7
Oil and gas	587.9	569.8	1,045.5
Construction materials	16.9	15.8	17.5
Other non-metallic minerals	238.1	204.9	228.4
Total	*855.6*	*815.1*	*1,329.3*
Manufacturing			
Confidential items falling within ASIC classes 0124–2963 incl.	4.9	—	—
Food, beverages and tobacco	1,412.1	1,607.1	1,675.1
Textiles	1,701.9	1,877.7	2,117.9
Clothing and footwear	824.6	954.9	1,003.7
Wood, wood products and furniture (including sheet metal furniture (3152))	735.0	707.2	814.9
Paper, paper products, printing and publishing	1,487.9	1,746.8	2,016.0
Chemical, petroleum and coal products	4,042.2	4,274.6	4,852.7
Non-metallic mineral products	583.1	641.2	762.4
Basic metal products	940.0	1,046.0	1,238.4
Fabricated metal products (excluding sheet metal furniture (3152))	896.4	960.4	(*a*)1,119.9
Transport equipment	4,771.4	4,723.1	4,753.6
Other machinery and equipment	12,206.5	12,744.2	13,631.6
Miscellaneous manufacturing	2,199.4	2,407.8	2,708.9
Total	*31,805.5*	*33,691.1*	*36,693.1*
Other industries			
Wholesale and retail Trade, business services	140.3	168.7	218.3
Confidential items; waste scrap n.e.c.; Second hand goods n.e.c.; Special goods	1,361.7	1,766.5	1,726.0
Total	*1,502.0*	*1,935.2*	*1,944.3*
Total *(b)*	**34,691.2**	**37,021.9**	(*a*)**40,594.3**

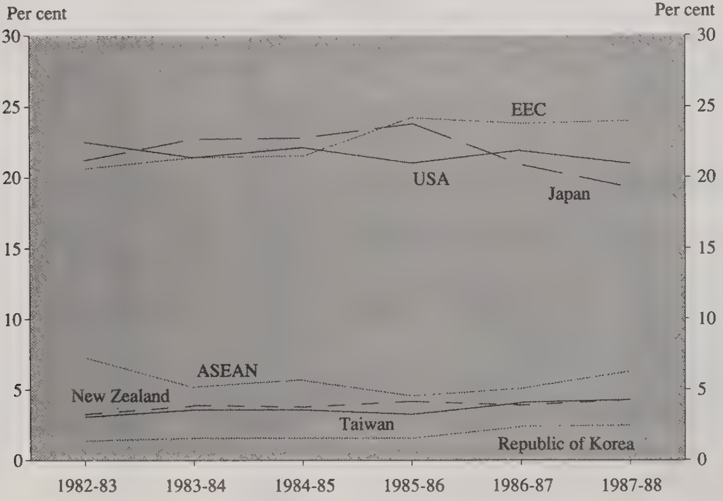
(a) Includes, from 1 July 1987, exports or imports of gold coins, whether or not they are legal tender, and other coins which are legal tender. For prior periods the trade in these commodities is recorded as non-merchandise. *(b)* Total trade excludes non-merchandise trade.

The following diagrams show the foreign trade of Australia, 1977–78 to 1987–88 and the value of exports and imports, proportions by country, 1982–83 to 1987–88.

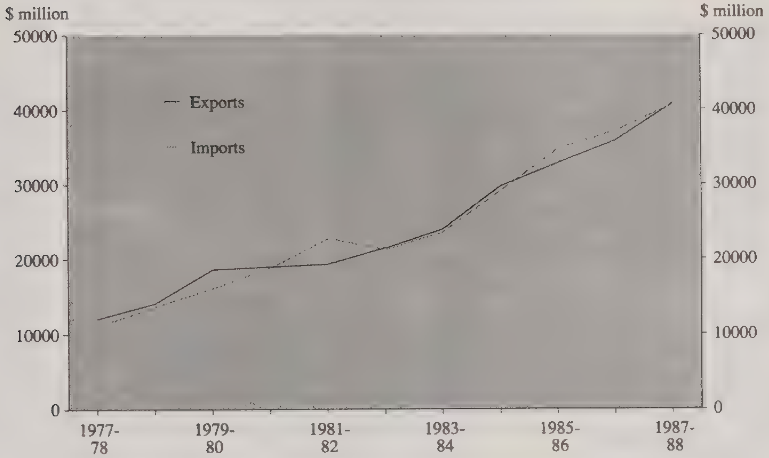
EXPORTS TO MAJOR COUNTRIES AND COUNTRY GROUPS AUSTRALIA



IMPORTS FROM MAJOR COUNTRIES AND COUNTRY GROUPS AUSTRALIA



EXPORTS AND IMPORTS, AUSTRALIA



Direction of foreign trade

Exports and imports, by country of consignment or of origin

The following table shows the value and percentage of Australian exports and imports according to principal country of consignment or origin. The proportions of Australian exports and imports by country of origin or consignment are shown on the preceding page.

AUSTRALIAN EXPORTS AND IMPORTS, VALUE BY COUNTRY OR COUNTRY GROUP OF CONSIGNMENT OR ORIGIN
($'000)

	Exports			*Imports*		
Country	1985–86	1986–87	1987–88(a)	1985-86	1986–87	1987–88(a)
Argentina (Argentine Republic)	47,398	77,143	74,919	33,707	48,678	64,252
Association of South-East Asian Nations—						
Brunei Darussalam	10,263	13,023	14,617	1	32,421	28,190
Indonesia, Republic of	522,211	527,585	561,751	209,310	310,556	587,698
Malaysia	515,995	589,994	651,549	325,432	409,667	590,827
Phillippines, Republic of	203,587	258,749	256,930	122,519	113,354	127,010
Singapore, Republic of	728,235	779,813	1,172,580	745,209	755,917	898,309
Thailand, Kingdom of	163,994	223,649	316,209	200,874	284,383	631,082
Total ASEAN	*2,144,284*	*2,392,813*	*2,973,636*	*1,603,345*	*1,906,298*	*2,563,116*
Austria, Republic of	20,690	12,149	18,279	128,017	141,485	156,713
Bahrain, State of	127,553	78,184	53,145	28,336	19,479	30,799
Bangladesh, People's Republic of	27,997	41,488	50,265	18,589	17,709	17,738
Brazil, Federal Republic of	98,085	139,014	99,551	245,972	219,549	298,467
Canada	460,187	637,088	701,637	691,157	750,501	863,431
China, People's Republic of	1,497,376	1,590,458	1,280,978	435,032	588,829	850,483
Czechoslavakia (Czechoslovak Socialist Republic)	47,292	34,353	68,264	32,444	28,890	41,078
Egypt, Arab Republic of *(b)*	508,129	362,472	311,424	281	241	2,197

AUSTRALIAN EXPORTS AND IMPORTS, VALUE BY COUNTRY OR COUNTRY GROUP OF CONSIGNMENT OR ORIGIN

($'000)—*continued*

	Exports			*Imports*		
Country	*1985–86*	*1986–87*	*1987–88(a)*	*1985–86*	*1986–87*	*1987–88(a)*
European Economic Community—						
Belgium–Luxembourg	266,901	297,577	367,151	287,112	311,927	319,899
Denmark, Kingdom of	127,849	161,866	89,521	172,886	176,861	189,674
France (French Republic)	707,983	908,850	980,582	776,124	827,302	892,158
Germany, Federal Republic of	878,874	1,101,130	1,074,705	2,743,163	2,782,116	2,918,188
Greece (Hellenic Republic)	68,089	34,751	74,785	47,189	45,294	50,256
Ireland (Irish Republic)	7,862	5,968	7,192	150,248	184,332	201,646
Italy (Italian Republic)	686,584	823,709	1,092,081	1,094,688	1,110,296	1,329,204
Netherlands, Kingdom of the	438,631	598,220	626,433	430,680	486,656	595,849
Portugal (Portuguese Republic) *(c)*	72,018	35,287	46,258	35,253	32,473	46,995
Spain (Spanish State) *(c)*	231,928	292,883	280,035	155,547	140,893	190,239
United Kingdom of Great Britain and Northern Ireland	1,153,888	1,374,905	1,774,977	2,515,632	2,705,511	3,012,334
Total EEC	*4,640,607*	*5,635,147*	*6,413,720*	*8,408,521*	*8,803,662*	*9,746,442*
Fiji	204,587	174,202	123,366	50,185	27,762	43,802
Finland, Republic of	56,235	49,675	79,216	208,463	262,631	293,483
Hong Kong	727,099	1,086,099	1,977,341	676,476	800,037	845,427
India, Republic of	428,291	425,413	505,256	170,527	203,352	228,113
Iran Islamic Republic of	305,249	343,798	380,429	18,659	4,388	17,132
Iraq, Republic of	206,497	194,714	178,350	125	285	171
Israel, State of	64,831	70,262	61,177	95,831	86,461	123,432
Japan	9,307,147	9,088,020	10,655,216	8,248,305	7,737,074	7,816,709
Jordan, Hashemite Kingdom of	31,804	7,826	8,877	9,331	90	317
Korea, Republic of	1,318,790	1,499,601	1,767,845	556,666	897,907	1,020,171
Kuwait, State of	132,177	86,871	80,445	297,025	162,629	121,022
Libyan Arab Jamahiriya, Socialist People's	1,373	24,362	8,739	2	4	—
Mauritius	20,487	26,520	37,980	3,264	3,332	2,995
Mexico (United Mexican States)	48,029	41,742	54,414	66,151	55,330	64,632
New Caledonia	40,825	55,096	85,276	2,941	1,895	3,906
New Zealand	1,505,577	1,775,912	2,165,013	1,454,427	1,431,969	1,732,740
Norway, Kingdom of *(b)*	20,936	24,025	29,392	76,211	96,506	168,113
Oman, Sultanate of	53,652	441,107	55,135	35,464	17,617	9,717
Pakistan, Islamic Republic of	175,134	100,555	101,377	40,017	61,046	64,650
Papua New Guinea	561,593	651,051	744,639	170,946	189,747	109,118
Poland (Polish People's Republic)	137,593	107,416	199,534	18,507	21,209	27,366
Romania, Socialist Republic of	86,378	114,799	123,384	8,665	12,983	23,000
Saudi Arabia, Kingdom of	486,447	297,951	266,298	470,822	437,267	418,901
South Africa, Republic of	137,678	154,130	152,715	157,831	154,717	99,217
Sri Lanka, Democratic Socialist Republic of	60,790	28,478	30,816	21,709	21,216	27,969
Sweden, Kingdom of	90,343	120,886	120,519	657,791	655,277	776,633
Switzerland (Swiss Confederation)	56,642	365,124	307,713	428,478	489,826	543,828
Taiwan	1,060,655	1,227,646	1,380,699	1,161,078	1,517,523	1,744,160
Turkey, Republic of	80,630	116,739	191,058	13,170	19,922	32,720
Uganda, Republic of	389	657	142	9,033	4,997	2,491
United Arab Emirates	178,791	222,213	232,349	134,806	175,845	215,845
United States of America	3,242,413	4,194,630	4,655,488	7,283,677	8,118,424	8,530,597
USSR	969,719	687,725	631,829	10,251	15,136	21,666
Venezuela, Republic of	7,087	10,471	10,711	770	1,167	1,280
Yemen, Arab Republic	100,472	65,095	51,089	—	—	—
Yemen, People's Democratic Republic of	50,189	30,387	45,646	54	—	—
Yugoslavia, Socialist Federal Republic of	54,801	110,221	91,219	33,047	38,035	49,687
Zimbabwe	6,170	4,832	7,581	6,152	294,091	179,730
Other countries	1,157,683	1,152,987	1,371,370	460,744	467,460	654,150
Country of origin or destination unknown	217	36	2,950	8,195	11,432	8,976
Total	**32,795,007**	**35,782,583**	**40,943,492**	**34,691,197**	**37,021,910**	**40,594,330**

(a) Includes, from 1 July 1987, exports or imports of gold coins, whether or not they are legal tender, and other coins which are legal tender. For prior periods the trade in these commodities is recorded as non-merchandise. *(b)* Excludes exports of alumina. Alumina exports for Egypt, Iceland and Norway are included in 'Other countries'. *(c)* Portugal and Spain became members of the EEC on 1 January 1986.

Foreign trade by State

The following table shows the value of exports and imports for each State and Territory.

EXPORTS AND IMPORTS BY STATE
($'000)

	1986–87		*1987–88(a)*	
State (b)	*Exports*	*Imports*	*Exports*	*Imports*
New South Wales	8,355,789	16,131,220	10,622,808	18,088,101
Victoria	7,398,045	13,743,043	9,028,718	14,019,873
Queensland	7,734,635	2,503,854	8,007,184	2,844,456
South Australia	2,047,147	1,501,827	2,262,232	1,804,689
Western Australia	6,667,949	2,545,141	7,293,700	3,152,486
Tasmania	1,094,664	289,374	1,214,783	282,770
Northern Territory	750,318	265,773	894,191	385,185
Australian Capital Territory	924	41,677	2,383	16,770
State not available	121,009	—	148,932	—
Re-exports	1,612,104	—	1,408,561	—
Total *(c)*	**35,782,583**	**37,021,910**	**40,943,492**	**40,594,330**

(a) Includes, from 1 July 1987, exports or imports of gold coins, whether or not they are legal tender, and other coins which are legal tender. For prior periods the trade in these commodities is recorded as non-merchandise. *(b)* For imports: State in which entry was lodged. The State of lodgement is not necessarily the State in which the goods were discharged or consumed. For exports: State is State of origin of Australian produce and State of final shipment of re-exported goods. State of origin is defined as the State in which the final stage of production or manufacture occurs. Because of this change in the basis on which statistics by State are derived, figures from 1 July 1978 are not directly comparable with those for previous periods. *(c)* Total excludes non-merchandise trade.

Import clearances, dutiable clearances, and customs duties collected

The following table shows the value of total import clearances, total dutiable clearances, and the customs duties collected, together with the ratio of total dutiable clearances to total clearances.

TOTAL IMPORT CLEARANCES, DUTIABLE CLEARANCES, AND DUTIES

		1984–85	*1985–86*	*1986–87*	*1987–88*
Total import clearances	$'000	29,907,018	35,376,584	38,025,134	*(a)*40,436,172
Total dutiable clearances	$'000	18,551,873	21,901,431	23,732,375	n.a.
Total customs duties collected	$'000	2,979,888	3,388,711	3,292,328	n.a.
Ratio of dutiable clearances to total clearance	per cent	62.0	61.9	62.4	n.a.
Ratio of duties collected to dutiable clearances	per cent	16.1	15.5	13.9	n.a.

(a) Includes, from 1 July 1987, import clearances of gold coins, whether or not they are legal tender, and other coins which are legal tender. For prior periods the trade in these commodities is recorded as non-merchandise.

Excise

Although excise goods have no immediate bearing on foreign trade, the rate of excise duty is in some cases related to the import duty on similar goods. Moreover, as the Excise Acts are administered by the Australian Customs Service, it is convenient to publish here the quantities of Australian produce on which excise duty has been paid. Particulars of customs and excise revenue are shown in Chapter 24, Public Finance. The following table shows the quantities of goods on which excise duty was paid in Australia.

QUANTITIES OF PRINCIPAL EXCISABLE GOODS ON WHICH EXCISE DUTY WAS PAID: AUSTRALIA

Article	1985–86	1986–87	1987–88
	'000 litre	'000 litre	'000 litre
Beer	1,827,325	1,784,477	1,625,646
	'000 l.al	'000 l.al	'000 l.al
Spirits—			
Brandy	1,997	1,781	1,779
Gin	366	232	269
Whisky	228	129	94
Rum	2,515	2,303	2,274
Liqueurs	150	133	138
Vodka	650	478	517
Flavoured spirituous liqueurs	489	414	573
Other	16	306	9
Total spirits (potable)	*6,411*	*5,776*	*5,653*
	'000 kg	'000 kg	'000 kg
Tobacco	1,110	969	870
Cigars	32	1	—
Cigarettes—machine-made	26,725	25,801	26,055
	'000 litre	'000 litre	'000 litre
Petrol—			
Aviation gasoline—for use in aircraft *(a)*	113,943	114,741	119,733
Aviation gasoline—other *(a)*	—	—	—
Gasoline—commercial motor spirit/ethanol blends	—	—	—
Gasoline *(a)*	15,864,207	16,100,824	16,449,904
Aviation turbine kerosene *(a)*	1,304,041	1,373,287	1,413,455
Other kerosene	1,356,502	1,123,207	971,111
Diesel fuel	*(b)*8,481,365	*(b)*8,850,924	9,019,020
	'000 litre	'000 litre	'000 litre
Crude petroleum oil, liquid petroleum and liquefied petroleum gas	30,584,410	34,831,622	25,370,344
	'000 tonnes	'000 tonnes	'000 tonnes
Coal	130,928	140,866	141,856

(a) Includes supplies to Commonwealth Government on which exercise was paid. *(b)* Includes automotive, industrial and marine diesel fuel.

FOREIGN INVESTMENT

Foreign investment statistics provide information on the *level* (stock) of Australia's foreign financial assets and liabilities at a given point in time, *capital transactions* (investment flows) which increase and decrease these assets and liabilities, *other changes* in the value of these assets and liabilities, and *income* receivable and payable on these assets and liabilities.

These statistics form an integral part of Australia's balance of payments as well as being useful in their own right in determining, for example, the impact of foreign investment policies and the level of Australia's foreign assets and liabilities, including foreign debt. They are also useful when analysing the behaviour of financial markets. The statistics are collected from surveys of foreign investment which have been conducted since 1947–48.

Classification

The primary classification used in foreign investment statistics is the direction of investment. This classification refers to the basic distinction between inward and outward investment; that is, foreign investment in Australia or Australian investment abroad. Broadly, *foreign investment in Australia* refers to the stock of financial assets in Australia owned by foreign residents and capital transactions which increase or decrease this stock. Conversely, *Australian investment abroad* refers to the stock of financial assets abroad owned by Australian residents and capital transactions which increase or decrease this stock.

Foreign investment is undertaken by means of *instruments of investment*. Many types of instrument of investment can be identified, but for analytical reasons and ease of reporting similar instruments are combined.

- *Corporate equities* includes ordinary and preference shares and units in trusts.
- *Borrowing* (foreign investment in Australia) or *lending* (Australian investment abroad) comprises deposits, loans, finance leases, bonds, bills, IMF credit and Bank of International Settlements placements.
- *Reserve Assets* includes monetary gold, Special Drawing Rights and reserve position in the IMF and foreign exchange held by the Reserve Bank of Australia.
- *Other investments* consists of net equity in branches and amounts outstanding in respect of goods, services, interest, dividends etc.
- *Reinvestment of earnings* of direct investors refers to income retained from after tax profits attributable to direct investors.

Statistics are provided in respect of both Australia's *gross foreign debt* (borrowing) and Australia's *net foreign debt*, the latter being derived by deducting reserve assets and lending abroad from gross foreign debt.

The *country* dissection of statistics on foreign investment shows the countries investing in Australia or receiving investment from Australia. The classification is based upon the country of residence of the foreign creditor or debtor holding Australia's financial liabilities or financial assets. It does not necessarily reflect either the country of ultimate beneficial ownership of the investment, the country of immediate source of funds or the country to which amounts borrowed will in fact be repaid.

The *industry* classification used in foreign investment statistics is based upon the *Australian Standard Industrial Classification* (ASIC), 1983 edition. For both foreign investment in Australia and Australian investment abroad, investment is classified by the industry of the enterprise group receiving that investment. Industry statistics should be treated with some caution as they do not necessarily reflect the industry in which the funds are ultimately employed.

Coverage

As there is no comprehensive source for identifying enterprises engaged in foreign investment activity, lists of enterprises included in foreign investment surveys are compiled from a variety of sources. These sources include stock exchange reports, company reports, newspapers and the financial press, business directories, tax declaration forms submitted under the Banking (Foreign Exchange) Regulations, information provided on a confidential basis of proposals approved by the Foreign Investment Review Board and records of the Commissioner of Corporate Affairs in some States.

Valuation and timing

Market price is the principle method of valuation in foreign investment statistics. Capital transactions are recorded on a change of ownership basis, that is, at the time when the foreign financial assets or liability is acquired, sold, repaid or otherwise disposed of. By convention, this is taken to be the time at which the event is recorded in the books of the transactors. Investment income is generally recorded at the time it becomes due for payment.

Foreign investment statistics

The table below shows a reconciliation between opening and closing levels of foreign investment in Australia, Australian investment abroad and Australia's net international investment position. The table also shows income payable on foreign investment in Australia, income receivable on Australian investment abroad and net income payable.

FOREIGN INVESTMENT SUMMARY TABLE
($A million)

		Changes in levels of investment during the year						
Year	*Levels of investment at beginning of year*	*Reinvestment of earnings of direct investors*	*Other transactions*	*Exchange rate variations*	*Other changes*	*Total*	*Levels of investment at end of year*	*Investment income (a)*
FOREIGN INVESTMENT IN AUSTRALIA								
Corporate Equities—								
1985–86	33,013	553	2,021	. .	909	3,483	36,496	1,844
1986–87	36,496	996	5,791	. .	15,018	21,805	58,301	2,532
1987–88	58,301	1,825	3,045	. .	–2,670	2,200	60,501	3,596
Borrowing—								
1985–86	67,473	. .	16,459	6,005	*(b)*2,113	24,577	92,050	6,908
1986–87	92,050	. .	14,288	–1,643	211	12,856	104,906	8,260
1987–88	104,906	. .	16,883	–4,765	–5	12,113	117,019	9,129
Other Investment—*(c)*								
1985–86	10,832	383	–271	205	–258	59	10,891	738
1986–87	10,891	249	–24	25	1,455	1,705	12,596	551
1987–88	12,596	602	611	–80	*(d)*–268	865	13,461	799
Total—*(c)*								
1985–86	111,318	936	18,209	6,211	2,764	28,119	139,437	9,489
1986–87	139,437	1,244	20,055	–1,617	16,684	36,366	175,803	11,343
1987–88	175,803	2,428	20,539	–4,845	–2,943	15,178	190,980	13,525
AUSTRALIAN INVESTMENT ABROAD								
Corporate Equities—								
1985–86	10,858	642	4,778	792	2,331	8,543	19,401	1,037
1986–87	19,401	1,174	6,248	–225	4,531	11,728	31,129	1,784
1987–88	31,129	1,820	6,388	–180	–3,562	4,466	35,595	2,050
Reserve Assets—								
1985–86	13,517	. .	–2,140	1,405	242	–493	13,024	595
1986–87	13,024	. .	3,394	239	937	4,570	17,594	531
1987–88	17,594	. .	3,924	–893	–442	2,588	20,182	706
Lending—								
1985–86	2,748	. .	1,007	419	*(b)*–193	1,233	3,981	115
1986–87	3,981	. .	381	–190	691	882	4,863	114
1987–88	4,863	. .	2,165	3	–483	1,685	6,548	287
Other Investment—*(c)*								
1985–86	6,637	39	535	112	–447	239	6,876	219
1986–87	6,876	3	1,176	17	–228	968	7,844	199
1987–88	7,844	–13	110	–52	*(d)*–346	–301	7,543	162
Total—*(c)*								
1985–86	33,760	681	4,181	2,728	1,933	9,523	43,283	1,966
1986–87	43,283	1,176	11,198	–158	5,931	18,147	61,430	2,628
1987–88	61,430	1,807	12,586	–1,122	–4,833	8,438	69,868	3,205
NET INTERNATIONAL INVESTMENT POSITION AND INCOME *(e)*								
Corporate equities—								
1985–86	22,155	–89	–2,757	–792	–1,423	–5,061	17,094	807
1986–87	17,094	–178	–457	225	10,487	10,078	27,172	748
1987–88	27,172	6	–3,343	180	892	–2,266	24,906	1,546
Net Foreign Debt—*(f)*								
1985–86	51,208	. .	17,592	4,181	2,064	23,837	75,045	6,198
1986–87	75,045	. .	10,513	–1,692	–1,417	7,404	82,449	7,615
1987–88	82,449	. .	10,794	–3,875	921	7,840	90,289	8,136
Other Investment—								
1985–86	4,195	344	–806	93	189	–180	4,015	519
1986–87	4,015	246	–1,200	8	1,683	737	4,752	352
1987–88	4,752	615	501	–28	78	1,166	5,918	637
Total—								
1985–86	77,558	255	14,028	3,483	831	18,596	96,154	7,523
1986–87	96,154	68	8,857	–1,459	10,753	18,219	114,373	8,715
1987–88	114,373	621	7,953	–3,723	1,890	6,740	121,112	10,320

(a) Includes reinvestment of earnings of direct investors. Investment income is calculated before the deduction of withholding tax. *(b)* As a result of the change in the data source for banks, levels of borrowing (foreign investment in Australia) shown at the end of 1985–86 are not strictly comparable with levels of data shown for earlier periods, hence the larger reconciliation item for 1985–86. The change in data source accounts for an increase of $1,800 million in the level of borrowing at 30 June 1986. Similarly a data source change for bank lending abroad accounts for about $450 million of the amount shown as 'other changes' in 1985–86. *(c)* Details of exchange rate variations for accounts payable/prepayments received (foreign investment in Australia) and accounts receivable/prepayments made (Australian investment abroad), components of 'other investment', are not availalbe and have been included in 'other changes'. *(d)* As a result of a change in the data source for accounts payable/prepayments rceived (foreign investment in Australia) and accounts receivable/prepayments made (Australian investment abroad), components of 'other investment', levels at 30 June 1988 are not strictly comparable with levels of data shown for earlier periods. The changed data source accounts for decreases of $409 million and $656 million in the 1987–88 'other changes' for foreign investment in Australia and the Australian Investment abroad respectively. *(e)* Net international investment position equals foreign investment in Australia less Australian investment abroad. *(f)* Foreign borrowing by Australian residents less the sum of reserve assets and Australian lending abroad.

The following table provides details on Australia's foreign debt, including foreign borrowing, reserve assets and lending abroad and net foreign debt.

LEVELS OF FOREIGN DEBT
($A million)

	At 30 June—					
	1983	*1984*	*1985*	*1986*	*1987*	*1988*
FOREIGN BORROWING (GROSS DEBT)						
Official—						
Commonwealth Government and Reserve Bank	7,682	8,534	12,982	19,553	23,173	22,286
State government	—	339	1,901	3,855	6,684	10,475
Total official	*7,682*	*8,874*	*14,883*	*23,409*	*29,857*	*32,761*
Non-official—						
Financial enterprises—						
Public sector	696	1,197	2,530	5,505	6,557	10,453
Private sector	3,400	5,073	9,034	14,972	19,802	22,803
Total	*4,097*	*6,270*	*11,564*	*20,477*	*26,359*	*33,256*
Trading enterprises—						
Public sector	5,829	7,711	12,452	13,504	12,327	12,323
Private sector	18,284	21,247	28,574	34,661	36,363	38,679
Total	*24,113*	*28,957*	*41,026*	*48,165*	*48,690*	*51,002*
Total non-official	*28,209*	*35,227*	*52,590*	*68,641*	*75,049*	*84,258*
Total	**35,891**	**44,101**	**67,473**	**92,050**	**104,906**	**117,019**
AUSTRALIAN LENDING ABROAD AND RESERVE ASSETS						
Official—						
Reserve assets *(a)*	10,748	12,417	13,517	13,024	17,594	20,182
Lending	7	3	106	137	364	649
Total official	*10,755*	*12,420*	*13,623*	*13,161*	*17,958*	*20,831*
Non-official—						
Financial enterprises	684	576	1,190	2,838	2,854	4,094
Trading enterprises	1,068	1,212	1,451	1,006	1,645	1,805
Total non-official	*1,752*	*1,788*	*2,642*	*3,845*	*4,499*	*5,899*
Total	**12,507**	**14,208**	**16,265**	**17,005**	**22,457**	**26,730**
NET FOREIGN DEBT *(b)*						
Official—	*–3,073*	*–3,546*	*1,260*	*10,248*	*11,899*	*11,929*
Non-official—						
Financial enterprises	3,412	5,694	10,374	17,639	23,505	29,162
Trading enterprises	23,045	27,746	39,575	47,158	47,045	49,197
Total non-official	*26,457*	*33,440*	*49,948*	*64,797*	*70,550*	*78,360*
Total	**23,384**	**29,893**	**51,208**	**75,045**	**82,449**	**90,289**

(a) From 30 June 1985, figures for official reserve assets are not fully comparable with earlier data due to changes in the Reserve Bank's accounting procedures. *(b)* Foreign borrowing by Australian residents less the sum of Australian lending abroad and reserve assets.

The following tables provide details of foreign investment in Australia and Australian investment abroad classified by country and foreign investment in Australia classified by industry of investment. This information is provided in respect of capital transactions, investment income and levels.

FOREIGN INVESTMENT IN AUSTRALIA, BY COUNTRY
($A million)

	Year—					
Country of investor	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
			CAPITAL TRANSACTIONS			
OECD—						
USA	498	1,411	3,564	4,304	4,469	433
Japan	3,217	1,500	3,454	2,673	761	5,256
Switzerland	208	134	399	544	334	650
EEC—						
UK	2,419	2,529	2,287	1,932	3,561	6,721
Other *(a)*	1,004	656	1,290	3,051	1,768	725
Total	*3,423*	*3,185*	*3,577*	*4,983*	*5,330*	*7,446*
Other OECD *(a)*	147	242	402	871	1,821	1,371
Total OECD	*7,493*	*6,473*	*11,397*	*13,374*	*12,713*	*15,157*
ASEAN *(b)*	1,619	2,148	592	–837	1,003	69
Other countries *(b)*	1,230	586	71	–760	1,168	1,676
International capital markets	161	953	2,321	6,806	6,791	5,125
International institutions	86	–137	–55	14	–24	–94
Unallocated	–140	145	462	548	–354	1,034
Total	**10,449**	**10,167**	**14,788**	**19,144**	**21,298**	**22,967**
			INVESTMENT INCOME			
OECD—						
USA	828	1,707	2,037	2,486	3,077	3,755
Japan	478	799	1,224	1,646	1,805	1,851
Switzerland	150	175	213	275	401	403
EEC—						
UK	1,012	1,504	1,833	2,049	2,301	2,405
Other *(a)*	265	452	524	784	1,152	1,447
Total	1,277	1,956	2,357	2,833	3,453	3,853
Other OECD *(a)*	100	192	212	327	321	371
Total OECD	2,834	4,829	6,041	7,567	9,057	10,233
ASEAN *(b)*	288	470	739	694	613	481
Other countries *(b)*	244	327	440	393	336	336
International capital markets	5	38	124	555	934	1,516
International institutions	55	40	32	24	22	22
Unallocated	116	130	187	256	381	936
Total	**3,542**	**5,833**	**7,563**	**9,489**	**11,343**	**13,525**
			LEVELS OF FOREIGN INVESTMENT			
OECD—						
USA	17,632	20,320	26,819	31,903	40,845	39,234
Japan	9,277	10,802	16,200	20,840	21,321	26,515
Switzerland	3,119	3,114	4,050	5,856	7,502	7,439
EEC—						
UK	18,781	20,631	26,138	29,318	37,127	44,019
Other *(a)*	7,409	8,054	10,441	14,443	17,842	18,461
Total	26,190	28,685	36,579	43,761	54,968	62,479
Other OECD *(a)*	2,010	2,844	3,801	4,541	8,888	8,200
Total OECD	58,228	65,764	87,449	106,901	133,523	143,867
ASEAN *(b)*	4,898	7,214	9,695	8,951	10,477	8,175
Other countries *(b)*	4,415	5,062	6,840	5,803	6,862	7,737
International capital markets	985	1,425	4,466	13,306	20,801	25,428
International institutions	533	390	341	365	332	239
Unallocated	1,876	2,017	2,527	4,111	3,808	5,534
Total	**70,935**	**81,873**	**111,318**	**139,437**	**175,803**	**190,980**

(a) Until 1985–86, Spain and Portugal are included in 'Other OECD', from 1985–86 they are included in 'Other EEC'.
(b) Until 1983–84, Brunei is included in 'Other countries', from 1983–84 it is included in 'ASEAN'.

AUSTRALIAN INVESTMENT ABROAD, BY COUNTRY
($A million)

	Year—					
Country of investment	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
	CAPITAL TRANSACTIONS					
OECD—						
USA	2,228	2,186	–307	1,294	7,626	1,648
New Zealand	148	163	231	2	1,604	1,061
UK	1	225	717	788	1,142	4,731
Other OECD *(a)*	1,264	968	1,521	1,000	1,402	2,142
Total OECD	3,640	3,543	2,161	3,084	11,774	9,582
ASEAN *(a)*	157	285	319	111	75	2
Papua New Guinea	149	230	94	–107	13	n.p.
Other countries *(b)*	299	231	351	2,230	594	2,560
Unallocated	–123	157	231	–456	–81	n.p.
Total	**4,122**	**4,446**	**3,156**	**4,862**	**12,375**	**14,393**
	INVESTMENT INCOME					
OECD—						
USA	468	643	698	405	517	654
New Zealand	101	154	173	262	344	47
UK	107	122	96	277	330	672
Other OECD *(a)*	82	119	270	396	437	634
Total OECD	*758*	*1,037*	*1,237*	*1,340*	*1,628*	*2,007*
ASEAN *(b)*	93	150	101	154	121	82
Papua New Guinea	47	108	53	141	61	3
Other countries *(b)*	103	118	80	212	600	1,043
Unallocated	53	55	54	118	219	70
Total	**1,054**	**1,468**	**1,525**	**1,966**	**2,628**	**3,205**
	LEVELS OF AUSTRALIAN INVESTMENT					
OECD—						
USA	8,106	10,195	11,906	13,081	20,880	19,303
New Zealand	781	928	927	1,599	3,785	4,957
UK	883	1,465	2,511	3,652	7,531	12,288
Other OECD *(a)*	3,019	3,939	6,399	9,848	12,656	14,118
Total OECD	*12,789*	*16,528*	*21,744*	*28,180*	*44,852*	*50,665*
ASEAN *(b)*	1,877	1,676	1,582	1,357	1,413	1,079
Papua New Guinea	850	1,016	994	856	1,437	1,803
Other countries *(b)*	2,478	3,059	3,977	7,038	7,222	9,262
Reserve Bank gold *(c)*	3,744	3,478	3,772	4,014	4,951	4,509
Unallocated	780	949	1,691	1,838	1,555	2,549
Total	**22,518**	**26,706**	**33,760**	**43,283**	**61,430**	**69,868**

(a) The foreign exchange part of reserve assets, with the exception of those held in the USA, are not available by country and are therefore included in 'Other OECD'. *(b)* Until 1983–84 Brunei is included in 'Other countries', from 1983–84 it is included in 'ASEAN'. *(c)* Gold held by the Reserve Bank as part of reserve assets which cannot be allocated by country.

FOREIGN INVESTMENT IN AUSTRALIA, BY INDUSTRY (a)

		Year—					
	Industry of investment (ASIC division)	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
	CAPITAL TRANSACTIONS						
A	Agriculture, forestry, fishing and hunting	49	5	3	41	438	–122
B	Mining	2,375	237	519	–1,020	1,138	1,362
C	Manufacturing	1,616	1,948	901	2,946	3,196	4,557
D	Electricity, gas and water	2,332	652	745	314	–995	–150
E	Construction	78	57	62	–59	358	–55
F	Wholesale and retail trade	686	1,510	1,898	1,010	1,270	1,396
G	Transport and storage	419	327	402	392	258	57
I	Finance, property and business services *(b)*	1,662	3,596	6,973	11,130	11,776	15,538
J	Public administration, and defence *(c)*	1,032	971	2,629	3,961	3,244	–127
H, K, L	Other industries *(d)*	195	310	294	235	202	466
M	Unallocated	5	555	362	196	414	45
	Total all industries	**10,449**	**10,167**	**14,788**	**19,144**	**21,298**	**22,967**
	INVESTMENT INCOME						
A	Agriculture, forestry, fishing and hunting	–3	3	2	24	5	9
B	Mining	582	974	1,083	1,827	1,250	1,274
C	Manufacturing	461	1,295	1,623	1,770	1,783	2,837
D	Electricity, gas and water	230	306	424	492	530	452
E	Construction	27	38	31	69	58	121
F	Wholesale and retail trade	265	626	688	468	940	1,130
G	Transport and storage	189	258	262	370	381	408
I	Finance, property and business services *(b)*	979	1,329	1,882	1,819	2,707	3,709
J	Public administration, and defence *(c)*	541	668	927	1,507	2,224	2,580
H, K, L	Other industries *(d)*	24	39	74	76	50	106
M	Unallocated	246	297	567	1,067	1,415	899
	Total all industries	**3,542**	**5,833**	**7,563**	**9,489**	**11,343**	**13,525**
	LEVELS OF FOREIGN INVESTMENT						
A	Agriculture, forestry, fishing and hunting	536	528	591	558	950	555
B	Mining	14,920	15,264	19,462	17,949	28,828	24,769
C	Manufacturing	15,508	18,440	22,121	27,641	34,702	39,518
D	Electricity, gas and water	4,441	5,112	7,534	8,400	7,353	7,123
E	Construction	746	849	1,200	1,100	1,688	1,658
F	Wholesale and retail trade	10,103	11,258	14,378	15,104	16,643	19,362
G	Transport and storage	2,671	3,020	4,267	5,286	5,894	5,665
I	Finance, property and business services (b)	11,343	15,004	23,776	36,495	50,058	63,894
J	Public administration, and defence *(c)*	8,081	8,861	13,273	19,930	23,508	22,507
H, K, L	Other industries *(d)*	817	1,088	1,651	1,846	1,804	2,244
M	Unallocated *(e)*	1,769	2,449	3,065	5,126	4,375	3,685
	Total all industries	**70,935**	**81,873**	**111,318**	**139,437**	**175,803**	**190,980**

(a) The industry categories shown are based on the 1983 edition of ASIC and relate to the predominant activity of the enterprise group receiving the investment funds. This is not necessarily the industry of the end use of the funds. *(b)* Includes the Reserve Bank and the State Government component of General Government. *(c)* Includes the Commonwealth Government component of General Government. *(d)* Consists of: Division H—Communications, Division K—Community services, and Division L—Recreation, personal and other services. *(e)* Details of accounts payable/prepayments received are not classified by industry and are therefore included in 'Unallocated'.

BALANCE OF PAYMENTS

The Australian balance of payments is a statistical statement designed to provide a systematic record of Australia's economic transaction with the rest of the world. It may be described as a system of consolidated accounts in which the accounting entity is the Australian economy and the entries mostly refer to economic transactions between residents of Australia and residents of the rest of the world (non-residents). Such a record is essential for the examination of influences which external factors have on the domestic economy. Balance of payments estimates have always assumed a particular importance in Australia due to the importance of these influences on the Australian economy.

Official estimates of Australia's balance of payments for the period 1928–29 were included in *Year Book* No. 24. Except for the War years 1939 to 1945, estimates have since been published at least annually.

Detailed estimates and brief descriptions of the various items included are provided in the annual publication *Balance of Payments, Australia* (5303.0) while comprehensive regional data is available in the annual microfiche publication *Balance of Payments, Australia—Regional Series on Microfiche* (5338.0). More timely estimates are provided in the quarterly publications *Balance of Payments, Australia* (5302.0) and *Balance of Payments, Australia—Historical Series on Microfiche* (5337.0), available approximately eight and ten weeks respectively after the end of each quarter. A monthly publication *Balance of Payments, Australia* (5301.0), showing preliminary estimates in less detail, is published about twelve working days after the end of each month. The publication *Balance of Payments, Australia: Summary of Concepts, Sources and Methods* (5351.0) provides a summary description of the conceptual framework of Australia's balance of payments accounts, and of the data sources and methods used to compile the statistics contained in the above bulletins.

Balance of payments statements cover a wide range of economic transactions which may be broadly divided into three categories. The first category comprises transactions in goods, services and income between residents of Australia and non-residents. The second category relates to financial transactions involving claims on and liabilities to the rest of the world. Because the statement is constructed on a double entry recording basis, a third category described as unrequited transfers is required to provide offsetting entries for one sided balance of payments transactions, such as gifts in cash and kind which have no 'quid pro quo'. Two changes not arising from transactions—specifically changes in Australia's official reserve assets arising from the allocation (or cancellation) of Special Drawing Rights (SDRs) by the International Monetary Fund (IMF) and the monetisation (or demonetisation) of gold—are included by convention, to make the accounts more analytically useful.

Traditionally, the first and third of the above categories are combined in what is described as the current account and the second category, together with the two changes not arising from transactions, are shown separately in what is described as the capital account.

The double entry system is used for recording balance of payments transactions. Under the internationally accepted conventions of the double entry system, credit entries, which have no arithmetic sign, are used to record exports of goods and services, income receivable and financial transactions involving either a reduction in the country's foreign financial assets or an increase in its foreign liabilities. Conversely, debit entries, identified by a minus sign (–), are used to record imports of goods and services, income payable and financial transactions involving either an increase in foreign financial assets or a decrease in foreign liabilities. Transactions in a double entry accounting system are reflected in pairs of equal credit and debit entries. For example, an export transaction for which payment is received through the banking system involves a credit entry for the export and a debit entry for the increase in foreign exchange assets. Similarly, the repayment of a foreign loan through the banking system involves a debit entry for a reduction in foreign liabilities and a credit entry for the decrease in foreign exchange assets. Any entries that are not automatically paired are matched by special offsetting entries. Such offsetting entries are required for the category of unrequited transfers and for the other changes not arising from transactions referred to in the previous paragraph, namely the allocation (or cancellation) of SDRs and the monetisation (or demonetisation) of gold.

It follows that, in principle, the net sum of all credit and debit entries is zero. In practice, some transactions are not measured accurately (errors), while others are not measured at all (omissions). Equality between the sum of the credit and debit entries is brought about by the inclusion of a balancing item which reflects net errors and omissions. The balancing item is shown separately outside both current and capital accounts since it reflects the net effects of errors and omissions in both accounts.

In principle, transactions and other changes should be valued in the balance of payments at market prices. However, in practice, transactions are generally valued in the statistics at transaction prices because this basis provides the closest practical approximation to the market price principle. The transactions price is the price at which a transaction is recorded in the accounts of the transactors.

Transactions and other changes recorded in the balance of payments should, in principle, be recorded at the time of change of ownership (either actual or imputed). For the current account transactions, this is conceived as the time when ownership of goods changes, when services are rendered, when reinvested earnings attributable to direct investors are earned, and when interest and dividends become due for payment. In the case of unrequited transfers, those which are imposed by one party on another, such as taxes and fines, should ideally be recorded at the time they become due for payment without penalty; whereas others should be recorded when the goods, services, etc. to which they are offsets change ownership. For capital account transactions the time of change of ownership is, by convention, normally taken to be the time at which transactions are entered in the books of the transactors. Entries for loan drawings should be based on actual disbursements and not on commitments or authorisations. Entries for loan repayments should be recorded at the time they become due rather than on the actual payment date.

In practice, the nature of the available data sources is such that the time of recording of transactions will often differ from the time of change of ownership. This is particularly true in the case of transactions in goods which are, in the main, recorded at the time that administrative records relating to the movement of the goods across the customs frontier are processed. Where practical, timing adjustments are made for transactions in certain goods to ensure that they are recorded in the time period in which change of ownership occurs.

In the tables that follow, global estimates of the current and capital accounts of the Australian balance of payments are presented. Current transactions are recorded *gross* and capital transactions *net*. This means that for each item in the current account the credit entries are recorded separately from the debit entries. For example, *travel credits* is shown separately from *travel debits*. For each item in the capital account, debit and credit transactions are combined to produce a single result for the item, which may be either a net credit or a net debit. For example, in a given period, foreign purchases of shares issued by companies in Australia (credit) are netted against foreign sales of similar shares (debit) and the net result is recorded in the appropriate item in the capital account.

The current account records transactions between Australian residents and non-residents in merchandise, other goods and services, income and unrequited transfers. In principle, the items included in merchandise should include all movable goods, with a few exceptions, which change ownership from residents to non-residents (exports) and from non-residents to residents (imports). Services covers services rendered by Australian residents to non-residents (credits) and by non-residents to residents (debits), together with transactions in a few types of goods (e.g. goods purchased by travellers). Income covers income earned by Australian residents from non-residents (credits) or by non-residents from residents (debits). It includes investment income (e.g. dividends and interest), other property income (e.g. royalties) and labour income (e.g. wages and salaries). Unrequited transfers covers the offsetting entries required by the double-entry system of accounting when resources (goods, services and financial assets) are provided, without something of economic value being received in return, by non-residents to Australian residents (offsetting credits required) and by residents to non-residents (offsetting debits required). It includes foreign aid, migrants' transfers, gifts, donations, pensions and taxes.

The capital account records transactions in Australia's foreign financial assets and liabilities, including the creation and extinction of claims on or by the rest of the world and a few specified other changes. Capital transactions are grouped into two broad institutional sectors called official and non-official. The official sector is split into general government and Reserve Bank of Australia. The general government sector comprises the transactions of Departments of State and similar entities that are agents or instruments of Commonwealth, State or local government. State government central, borrowing authorities and private non-profit organisations serving government are included in this category. Public business enterprises are, however, excluded from this sector and included in the non-official sector. The Reserve Bank sector covers transactions attributed to the central bank. The non-official sector covers transactions of all other resident entities including banks, non-bank financial enterprises and trading enterprises, and households.

CURRENT ACCOUNT
($ million)

	1985–86	*1986–87*	*1987–88*
Current transactions—			
Goods and services—			
Merchandise *(a)*—			
Exports f.o.b.	32,208	35,423	40,554
Imports f.o.b.	–35,676	–37,159	–40,410
Balance on merchandise trade	*–3,468*	*–1,736*	*144*
Services—			
Credits—			
Shipment	379	457	535
Other transportation	2,480	2,765	3,169
Travel	1,702	2,218	2,959
Other services	1,179	1,336	1,520
Total services credits	*5,740*	*6,776*	*8,183*
Debits—			
Shipment	–2,827	–2,847	–2,862
Other transportation	–2,197	–2,114	–2,451
Travel	–2,818	–3,206	–3,572
Other services	–1,999	–2,165	–2,426
Total services debits	*–9,841*	*–10,332*	*–11,311*
Net services	*–4,101*	*–3,556*	*–3,128*
Balance on goods and services	*–7,569*	*–5,292*	*–2,984*
Income—			
Credits—			
Property income—			
Reinvested earnings	681	1,186	1,220
Other	1,445	1,572	1,764
Labour and other income	175	178	211
Total income credits	*2,301*	*2,936*	*3,195*
Debits—			
Property income—			
Reinvested earnings	–936	–1,206	–1,400
Other	–9,246	–10,808	–12,226
Labour and other income	–174	–196	–261
Total income debits	*–10,356*	*–12,210*	*–13,887*
Net income	*–8,055*	*–9,274*	*–10,692*
Unrequited transfers—			
Credits	2,517	3,017	3,546
Debits	–1,700	–1,691	–1,777
Net unrequited transfers	*817*	*1,326*	*1,769*
Balance on current account	**–14,807**	**–13,240**	**–11,907**

(a) Balance of payments basis

CAPITAL ACCOUNT AND BALANCING ITEM
($ million)

	1985–86	*1986–87*	*1987–88*
Net capital transactions			
Official—			
General government—			
Foreign investment in Australia—			
Borrowing	5,609	6,146	2,400
Other	30	–12	–70
Total	*5,639*	*6,134*	*2,330*
Australian investment abroad	–213	–573	414
Total general government	*5,426*	*5,561*	*2,744*
Reserve Bank—			
Foreign investment in Australia	–16	18	–8
Australian investment abroad—			
Reserve assets	2,140	–3,394	–3,924
Other	—	—	—
Total	*2,140*	*–3,394*	*–3,924*
Total Reserve Bank	*2,124*	*–3,376*	*–3,932*
Total official	*7,550*	*2,185*	*–1,188*
Non official—			
Foreign investment in Australia—			
Direct investment—			
Reinvestment of earnings	936	1,206	1,400
Other	2,407	3,354	2,165
Portfolio and other investment	10,216	11,065	12,832
Total foreign investment in Australia	*13,559*	*15,625*	*16,397*
Australian investment abroad—			
Direct investment—			
Reinvestment of earnings	–681	–1,186	–1,220
Other	–2,088	–2,499	–4,692
Portfolio and other investment	–4,029	–4,116	–607
Total Australian investment abroad	*–6,798*	*–7,801*	*–6,519*
Total non-official	*6,761*	*7,824*	*9,878*
Balance on capital account	*14,311*	*10,009*	*8,690*
Balancing item	*496*	*3,231*	*3,217*

OFFICIAL RESERVE ASSETS AND AVERAGE EXCHANGE RATES

(*Source*: **Reserve Bank of Australia for official reserve assets**)

	Financial year ending 30 June—		
	1986	*1987*	*1988*
Levels of official reserve assets *(a)*		—$ million—	
Foreign exchange—			
United States dollars	3,403	6,571	8,015
Other	4,803	5,266	6,926
Special drawing rights	478	471	420
Reserve position in IMF	326	335	312
Gold	4,014	4,951	4,509
Total	**13,024**	**17,594**	**20,182**
Average exchange rates *(b)*		—Units of foreign currency per $A—	
United States dollar	0.6999	0.6636	0.7290
United Kingdom pound	0.4866	0.4352	0.4167
West German mark	1.753	1.280	1.262
Japanese yen	140.48	101.37	97.59
Special drawing right	0.6387	0.5345	0.5448

(a) SDRs, and Australia's reserve position in the IMF are based on the IMF basket valuation for the SDR, which is published in terms of US dollars crossed with the representative rate for the Australian dollar in terms of the US dollar. Gold is valued at the average London gold price for the month, converted to Australian dollars at the market rate of exchange applying on the last trading day of the month. The foreign currency value of all other overseas assets has been based, where applicable, on market quotations. Accrued interest is normally taken into account. Conversion to Australian dollar equivalent is based on end of period market rates of exchange. *(b)* Derived by averaging exchange rates for trading days.

VALUES OF EXPORTS AND IMPORTS OF GOODS AND SERVICES (BALANCE OF PAYMENTS BASIS) AT CONSTANT PRICES

The following tables show annual values of Australian exports and imports of goods and services at current and constant (average 1984–85) prices. These estimates are compiled on a balance of payments basis within the framework outlined below. Quarterly figures in original and seasonally adjusted terms are published regularly in the publications *Australian National Accounts, National Income and Expenditure* (5206.0) and *Balance of Payments, Australia* (5302.0).

The current price value of a transaction may be expressed conceptually as the product of a price and quantity. The value of the transaction at constant prices may then be thought of as being derived by substituting, for the current price, the corresponding price in the chosen base year. There are, however, many transactions recorded in statistics of overseas trade for which it is not possible to apply such an approach. In such cases it is necessary to make assumptions and approximation (e.g. revaluing by means of the price index which is considered to be most closely related to the commodity involved). The published estimates at constant prices should be viewed in this light.

Estimates at current prices are often divided by their corresponding estimates at constant prices to give measures of price change, which are generally referred to as implicit price deflators (IPDs). IPDs are derived measures and are not normally the direct price measures by which current price estimates are converted to estimates at constant prices. A more detailed discussion of the nature of IPDs is presented in Appendix VI of the publication *Australian National Accounts: Concepts, Sources and Methods* (5216.0).

Merchandise (Balance of Payments basis)

Prior to 1988 exports and imports of goods, f.o.b., were compiled using the Australian Export Commodity Classification (AECC) and the Australian Import Commodity Classification (AICC) based on the second revision of the United Nations Standard International Trade Classification (SITC Rev. 2). From 1 January 1988 exports and imports of goods, f.o.b. were compiled using the Harmonized Commodity Description and Coding System (HS) based on the third revision of the SITC (SITC rev. 3). This means that commodity data prior to 1988 are not strictly comparable with later data, however the lack of comparability for the aggregates presented in the tables below is thought to be minor.

The published components of merchandise exports and imports of goods, f.o.b. consist of varying numbers of SITC rev. 3 divisions and/or sections as shown below.

Exports	*Section or division of SITC rev. 3*	*Imports*	*Section or division of SITC rev. 3*
Rural—		Food, beverages and tobacco	0,1
Meat and meat preparations	01	Fuels	3
Cereal grains and cereal preparations	04	Chemicals (incl. plastics)	5
Sugar, sugar preparations and honey	06	Textiles, fabrics, etc.	65
Wool and sheepskins	Parts of 21,26	Metals and metal manufactures	67 to 69
Other rural	00,02,03,05,07 to 09, 21 (part) 22 to 25, 26 (part), 29, 4	Machinery	7
		Transport equipment	78, 79
		Manufactures n.e.c.	61 to 64, 66 8
Non-rural—		Other imports	2, 4, 9
Metal ores and minerals	27,28		
Mineral fuels—			
Coal, coke and briquettes	32		
Other mineral fuels	33 to 35		
Metals—			
Gold	97		
Other metals	67, 68		
Machinery	71 to 77		
Transport equipment	78, 79		
Other non-rural	11, 91 to 96		

Services

Services covers services rendered by Australian residents to non-residents (credits) and by non-residents to residents (debits), together with transactions in a few types of goods (e.g. goods purchased by travellers).

Exogenous and endogenous imports

Exogenous imports comprise a group of imported goods which it has been found useful to identify separately in economic analysis because the transactions in these goods are erratic, subject to government arrangements or significantly affected by factors other than the general level of economic activity in Australia. Exogenous imports include fuels, ships, aircraft and certain other large items of equipment acquired by selected public and private sector trading enterprises, defence goods and certain other government goods.

Endogenous imports comprise imports of all goods other than those regarded as exogenous.

Endogenous imports are classified into three classes—*consumption goods, capital goods* and *other goods*—according to the United Nations' classification by broad economic categories (BEC). Other goods covers the BEC class *intermediate goods* and the residual BEC category *goods not elsewhere specified*. The classes consist of the BEC categories (excluding goods defined as exogenous) shown below.

Consumption goods—
Food and beverages, primary, mainly for household consumption (112)
Food and beverages, processed, mainly for household consumption (122)
Passenger motor vehicles (51)
Transport equipment, non-industrial (522)
Consumer goods, not elsewhere specified (6)

Capital goods—
Capital goods (except transport equipment) (41)
Transport equipment, industrial (521)

Other goods—
Food and beverages, primary, mainly for industry (111)
Food and beverages, processed, mainly for industry (121)
Industrial supplies not elsewhere specified (2)
Parts and accessories of capital goods (except transport equipment) (42)
Parts and accessories of transport equipment (53)
Goods not elsewhere specified (7)

EXPORTS OF GOODS AND SERVICES (BALANCE OF PAYMENTS BASIS) AT CURRENT AND AVERAGE 1984–85 PRICES

($ million)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
AT CURRENT PRICES						
Rural exports f.o.b.						
Meat and meat preparations	1,675	1,393	1,371	1,699	2,244	2,555
Cereal grains and cereal preparations	1,849	2,773	3,855	3,880	2,778	2,202
Sugar, sugar preparations and honey	608	676	615	646	708	698
Wool and sheepskins	1,789	2,000	2,573	3,061	3,888	5,811
Other (dairy produce, fruit, etc.)	1,998	2,145	2,438	2,968	3,521	3,976
Total rural	*7,919*	*8,987*	*10,852*	*12,254*	*13,139*	*15,242*
Non-rural exports f.o.b.						
Metal ores and minerals	3,852	4,229	4,722	5,003	4,956	5,455
Minerals fuels—						
Coal, coke and briquettes	3,078	3,338	4,665	5,240	5,456	4,839
Other	1,058	1,437	2,360	2,299	1,515	1,779
Metals—						
Gold	210	379	556	787	1,552	2,563
Other metals	1,735	1,987	2,335	2,527	2,899	3,749
Machinery	771	883	940	1,139	1,595	1,835
Transport equipment	379	496	714	474	1,034	957
Manufactures n.e.c.	1,383	1,562	1,662	1,859	2,363	2,941
Other non-rural	271	384	406	626	914	1,170
Total non-rural	*12,737*	*14,695*	*18,360*	*19,954*	*22,284*	*25,288*
Total exports f.o.b.	*20,656*	*23,682*	*29,212*	*32,208*	*35,423*	*40,530*
Exports of services	*4,029*	*4,345*	*4,927*	*5,742*	*6,776*	*8,151*
Total exports of goods and services	**24,685**	**28,027**	**34,139**	**37,950**	**42,199**	**48,681**
AT AVERAGE 1984–85 PRICES						
Rural exports f.o.b.						
Meat and meat preparations	2,014	1,477	1,371	1,639	1,930	2,131
Cereal grains and cereal preparations	2,045	2,853	3,855	3,957	3,462	2,771
Sugar, sugar preparations and honey	605	586	615	640	653	642
Wool and sheepskins	2,101	2,224	2,573	2,823	3,253	3,205
Other (dairy produce, fruit, etc.)	2,364	2,287	2,438	2,891	3,170	3,136
Total rural	*9,129*	*9,427*	*10,852*	*11,950*	*12,468*	*11,885*
Non-rural exports f.o.b.						
Metal ores and minerals	4,231	4,656	4,722	4,819	4,733	5,136
Mineral fuels—						
Coal, coke and briquettes	3,110	3,635	4,665	4,886	5,232	5,532
Other	1,206	1,647	2,360	2,275	2,347	2,557
Metals—						
Gold	176	342	556	664	1,032	1,561
Other metals	2,202	2,190	2,335	2,475	2,543	2,689
Machinery	865	940	940	1,058	1,425	1,639
Transport equipment	442	551	714	466	934	878
Manufactures n.e.c.	1,551	1,635	1,662	1,718	1,954	2,168
Other non-rural	308	425	406	594	811	961
Total non-rural	*14,091*	*16,021*	*18,360*	*18,955*	*21,011*	*23,121*
Total exports f.o.b.	*23,220*	*25,448*	*29,212*	*30,905*	*33,479*	*35,006*
Exports of services	*4,464*	*4,557*	*4,927*	*5,200*	*5,694*	*6,474*
Total exports of goods and services	**27,684**	**30,005**	**34,139**	**36,105**	**39,173**	**41,480**

IMPORTS OF GOODS AND SERVICES (BALANCE OF PAYMENTS BASIS) AT CURRENT AND AVERAGE 1984–85 PRICES

($ million)

	1982–83	*1983–84*	*1984–85*	*1985–86*	*1986–87*	*1987–88*
AT CURRENT PRICES						
Food, beverages and tobacco	1,017	1,211	1,476	1,705	1,936	2,013
Fuels	3,087	2,209	2,321	1,909	1,751	2,036
Chemicals (incl. plastics)	1,769	2,155	2,567	3,003	3,466	4,280
Textile, fabrics, etc.	1,009	1,304	1,452	1,669	1,830	1,931
Metals and metal manufactures	1,193	1,143	1,462	1,695	1,845	2,205
Machinery	5,770	6,325	8,308	10,827	11,360	12,230
Transport equipment	2,825	2,936	4,512	5,415	4,502	4,152
Manufactures n.e.c.	3,992	4,681	5,930	6,892	7,700	8,563
Other imports	1,043	1,533	2,065	2,561	2,769	2,976
Total imports f.o.b.	*21,705*	*23,497*	*30,093*	*35,676*	*37,159*	*40,386*
of which:						
Exogenous	4,097	3,098	4,237	4,539	4,459	3,829
Endogenous—						
Consumption goods	4,742	5,616	6,918	8,123	8,296	9,348
Capital goods	4,357	4,936	6,567	8,146	8,031	8,578
Other goods	8,509	9,847	12,371	14,868	16,373	18,631
Total endogenous	*17,608*	*20,399*	*25,856*	*31,137*	*32,700*	*36,557*
Imports of services	*6,822*	*7,295*	*8,915*	*9,843*	*10,245*	*11,397*
Total imports of goods and services	**28,527**	**30,792**	**39,008**	**45,519**	**47,404**	**51,783**
AT AVERAGE 1984–85 PRICES						
Food, beverages and tobacco	1,203	1,350	1,476	1,488	1,532	1,641
Fuels	3,119	2,370	2,321	2,070	2,753	2,957
Chemicals (incl. plastics)	1,923	2,328	2,567	2,608	2,769	3,257
Textiles, fabrics, etc.	1,204	1,489	1,452	1,444	1,426	1,476
Metals and metal manufactures	1,341	1,267	1,462	1,455	1,424	1,631
Machinery	6,341	6,805	8,308	9,530	9,134	10,610
Transport equipment	3,470	3,310	4,512	4,404	3,167	2,800
Manufactures n.e.c.	4,558	5,167	5,930	5,891	5,754	6,327
Other imports	1,176	1,683	2,065	2,251	2,173	2,281
Total imports f.o.b.	*24,335*	*25,769*	*30,093*	*31,141*	*30,132*	*32,980*
of which:						
Exogenous	4,313	3,388	4,237	4,418	5,015	4,538
Endogenous—						
Consumption goods	5,754	6,493	6,918	6,899	6,220	7,038
Capital goods	4,776	5,219	6,567	7,053	6,270	7,160
Other goods	9,492	10,669	12,371	12,771	12,627	14,244
Total endogenous	*20,022*	*22,381*	*25,856*	*26,723*	*25,117*	*28,442*
Imports of services	*7,646*	*7,962*	*8,915*	*8,489*	*8,229*	*9,059*
Total imports of goods and services	**31,981**	**33,731**	**39,008**	**39,630**	**38,361**	**42,039**

FOREIGN PARTICIPATION STATISTICS

Foreign participation statistics include statistics on both foreign ownership and control of enterprises in Australia. Foreign ownership statistics provide a measure of the beneficial equity interest held by foreign residents (individuals and companies) in enterprises in Australia. Foreign control statistics provide a measure of the potential control, through ownership of voting shares, that foreign residents may have over the key policy decisions of enterprises in Australia. Following the termination of a previous program of studies in 1978, a program of foreign participation studies of industries and economics activities was reintroduced in 1982

.Brief explanatory notes and separate summary tables of ownership and control statistics are presented in the following tables for the most recent studies undertaken in the current program.

For agriculture, separate measures are provided for ownership of agricultural land and for ownership and control of agricultural activity. The statistics presented on foreign ownership of agricultural land are based on the ownership characteristics of the landowners. The statistics on foreign ownership and control of agricultural activity, on the other hand, are based on the ownership characteristics of the businesses operating on agricultural land. The owners of any particular parcel of land and the business operating on that land can, of course, be different entities.

Scope and methodology

The scope of each study together with the methodology used is outlined in the individual foreign participation publications listed in the bibliography at the end of the chapter. The statistical unit used in the compilation of the statistics is also defined in each publication. Generally, foreign participation characteristics for statistical units in each study were derived from information on ownership links collected from enterprises included in the biennial ABS Survey of Shareholdings.

Measurement of ownership and control

Foreign ownership is measured in terms of the beneficial equity interest (through ownership links) of all identified foreign residents:

(i) in enterprises operating in Australia, or

(ii) in agricultural land.

In order to calculate the beneficial equity interests of foreign residents whose interests are held through other enterprises in Australia, all relevant ownership links are multiplied together. *Australian ownership* is all ownership not identified as foreign ownership.

To measure the aggregate levels of foreign and Australian ownership in a particular industry, the amount reported for the selected data item (such as value added, premiums received, assets, gross value of agricultural commodities produced or area of agricultural land) for each statistical unit is apportioned between foreign and Australian ownership in proportion to percentages of foreign and Australian ownership in that unit. Data for each unit are then aggregated to obtain totals of foreign and Australian ownership.

In *control statistics*, enterprises are classified to one of four categories of control: foreign control; joint foreign and Australian control; naturalised or naturalising; and Australian control.

An enterprise is classified to *foreign control* if it has not been granted naturalised or naturalising status under the government's foreign investment policy and if a foreign investor (individual, company or group of related companies) or a foreign controlled enterprise holds at least 25 per cent of its voting shares and there are no equal or larger shareholdings by an Australian resident, an Australian controlled enterprise or a joint foreign and Australian controlled enterprise. Enterprises in which there are no dominant investors holding at least 25 per cent of the voting shares but all the voting shares are held by foreign residents are also classified to *foreign control.*

An enterprise is classified to *joint foreign and Australian control* if it does not have naturalised or naturalising status and either the single largest shareholder has 25 per cent or more of the voting shares and is itself joint foreign and Australian controlled or there are two or more equally large investors (there being no single larger investor) each with 25 per cent or more of the voting shares in the enterprise and:

(i) at least one of these investors is either a foreign resident or foreign controlled enterprise and at least one of these investors is either an Australian resident individual or an Australian controlled enterprise; or

(ii) at least one of these investors is joint foreign and Australian controlled.

An enterprise is classified to *naturalised or naturalising* if it had such status (at the reference period pertinent to each study) under the government's foreign investment policy and would otherwise be classified to either foreign control or joint foreign and Australian control.

All enterprises not classified to foreign control, joint foreign and Australian control, or naturalised or naturalising are classified to *Australian control.*

To measure the levels of control in an industry (or economic activity) for each of these four categories of control, the whole of the amount reported for the selected data item (such as value added, type of expenditure, premiums received, assets, gross value of agricultural commodities produced or value of imports) for each statistical unit is allocated to the control category of that unit. Data for each unit are then aggregated to obtain totals for the industry (economic activity) attributable to each of the four control categories.

Country of ownership and control

In the following two tables the classification by country of foreign ownership or control are based on the country of domicile of the immediate foreign investor which may not be the country of the ultimate foreign investor.

OWNERSHIP SUMMARY BY COUNTRY OF OWNERSHIP

Industry/activity	*Reference period*	*Ownership measured in terms of:*	*Total value of measure used*	*Foreign ownership*					*Australian ownership*	*Total*
				USA	*UK*	*Other EEC(a)*	*Other*	*Total*		
			$ million				—per cent—			
Manufacturing industry	1982–83	value added	31,059.1	12.2	12.7	1.8	6.2	32.9	67.1	100.0
Transport industry	1983–84	value added	6,959.7	1.0	2.9	0.4	0.9	5.1	94.9	100.0
Life insurance industry	1983–84	premiums received	3,306.8	2.7	20.6	3.2	13.8	40.3	59.7	100.0
General insurance industry	1983–84	premiums receivable	5,934.8	2.5	17.0	4.9	9.8	34.1	65.9	100.0
Agriculture—										
Agriculture activity	1983–84	gross value of agricultural commodities produced	15,317.2	0.5	0.7	0.5		1.8	98.2	100.0
			million hectares							
Agricultural land	at 31 March 1984	agricultural land area	486.6	1.8	2.4	0.2	1.4	5.9	94.1	100.0
			$ million							
Mining industry	1984–85	value added	10,609.9	21.7	13.3	1.9	7.8	44.7	55.3	100.0
Private sector construction industry	1984–85	value added	7,950.5	1.4	3.6	2.8	1.6	9.6	90.4	100.0
Banking industry	June 1986	asset	154,587.8	5.3	7.5	8.2		21.0	79.0	100.0
Registered financial corporations	June 1986	assets	105,090.9	11.4	10.8	13.1		35.4	64.6	100.0

(*a*) Belgium, Denmark, France, Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg and Netherlands.

CONTROL SUMMARY BY COUNTRY OF CONTROL

Industry/activity	Reference period	Control measured in terms of:	Total value of measure used	Foreign control					Joint foreign and Australian control	Naturalised and naturalising	Australian control	Total
				USA	UK	Other EEC (a)	Other	Total				
			$ million	—per cent—								
Manufacturing industry	1982–83	value added	31,059.1	12.4	12.9	1.9	4.9	32.1	1.2	1.3	65.4	100.0
New fixed capital expenditure by private enterprises, selected industries	1982–83	new fixed capital expenditure	15,805.6	15.6	10.5	1.1	2.7	29.9	7.1	2.0	61.0	100.0
Transport industry	1983–84	value added	6,959.7	0.4	2.3	0.4	0.2	3.4	0.1		96.5	100.0
Life insurance industry	1983–84	premiums received	3,306.8	2.9	15.7	4.6	3.4	26.6	(b)n.a.	..	73.4	100.0
General insurance industry	1983–84	premiums receivable	5,934.8	2.4	15.6	5.7	9.0	32.6	3.3	..	64.1	100.0
Agricultural activity	1983–84	gross value of agricultural commodities produced	15,317.2	0.5	0.5	0.5		1.5	0.2		98.2	100.0
Mining industry	1984–85	value added	10,609.9	7.9	5.8	1.5		15.2	24.8	11.5	48.5	100.0
Private sector construction industry	1984–85	value added	7,950.5	1.1	3.2	4.7	1.0	10.0	0.4	..	89.6	100.0
Private mineral exploration other than for petroleum	1984–85	exploration expenditure	437.3	14.6	13.2	4.8	3.2	35.9	16.7		47.5	100.0
Private petroleum exploration	1984–85	exploration expenditure	803.2	22.3	7.9	3.9	3.2	37.3	6.2		56.5	100.0
Imports	1984–85	value of imports	29,050.8	18.9	12.5	4.4	17.4	53.2	0.5	0.2	46.1	100.0
Research and experimental development	1986–87	expenditure	1,189.3	12.5	8.9	1.5	8.5	31.5	0.3	6.9	61.3	100.0
Banking industry	June 1986	assets	154,587.8	1.1	1.1	3.0		5.1	1.3	..	93.6	100.0
Registered financial corporations	June 1986	assets	105,090.9	10.6	9.0	9.2		28.9	2.4	..	68.7	100.0

(a) Belgium, Denmark, France, Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg and Netherlands. (b) Only one enterprise in this category was identified. It has been included in the statistics for the foreign control category.

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Customs and Excise Revenue, Australia (5425.0)
Imports, Australia: Annual Summary Tables (5426.0)
Exports, Australia: monthly Summary Tables (5432.0)
Imports, Australia: Monthly Summary Tables (5433.0)
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Foreign Trade, Australia, Exports (5436.0)
Foreign Trade, Australia, Imports (5437.0)

Other Publications

Related publications are available from:
Australian Customs Service—
  Australian Customs Tariff
  Customs (Prohibited Imports) Regulations

Other Information

In addition to the publications listed above, foreign trade statistics are also available via a number of special services which are described below. These services provide data on a monthly, quarterly or less frequent basis.

Special returns service: Subscribers to this service can receive foreign trade statistics at a particular commodity level on computer produced printout or via the electronic mail service TELESTATS. These statistics are available in one or more of a limited number of formats, for a charge consistent with the level of detail required. More details concerning the special returns service are contained in the information paper *Foreign Trade Statistics: Special Returns Service* (5480.0).

Microfiche service: Foreign trade statistics are also available on microfiche in a variety of tabular formats. Each tabular format covers all commodities exported or imported at various levels of aggregation. This service is recommended where the subscriber wishes to obtain foreign trade details for a large number of commodities. Details of this service are contained in the ABS information paper *Foreign Trade and Shipping Statistics: Microfiche Service* (5483.0).

Magnetic tape service: Statistics for imports, exports and import clearances are available on 9-track magnetic tape approximately 4 weeks after the end of the reference period. This service is recommended where the subscriber wishes to obtain trade data at the most detailed level. Documentation regarding the content and structure of these tapes is contained in the ABS information paper *Foreign Trade and Shipping Statistics: Magnetic Tape Service* (5484.0).

To satisfy special needs, where none of the standard output referred to above are appropriate, special 'customised' reports can also be made available.

Payment is generally required in advance for all these services.

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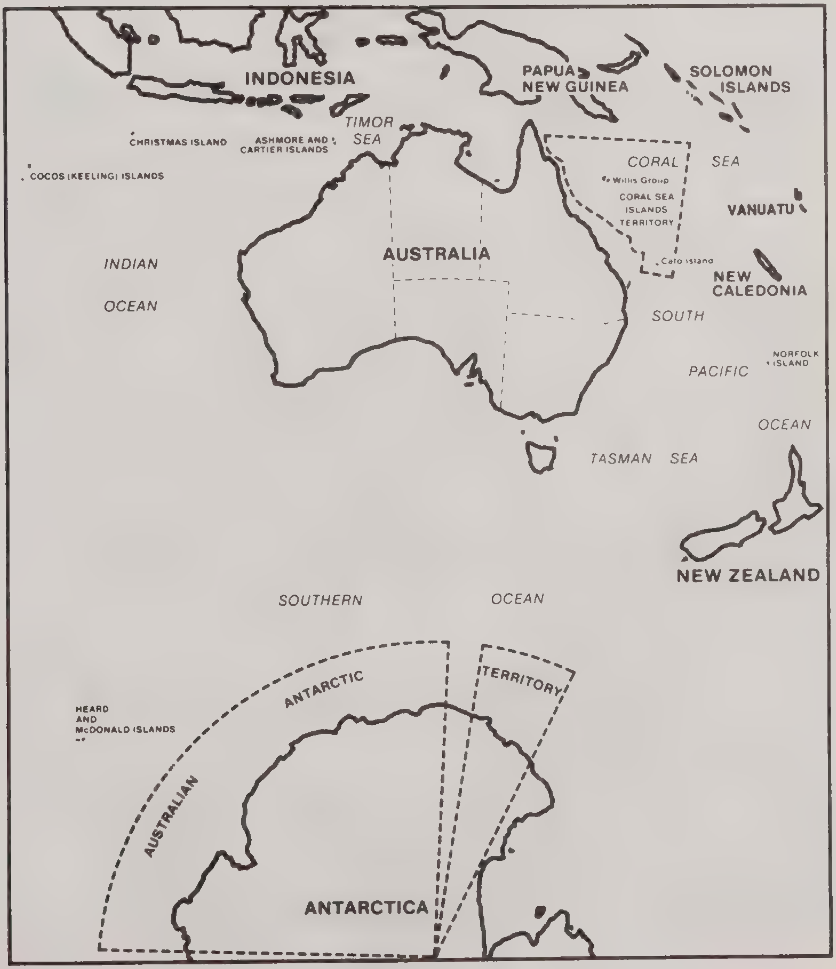
THE TERRITORIES OF AUSTRALIA


INDONESIA
PAPUA NEW GUINEA
SOLOMON ISLANDS
TIMOR SEA
CHRISTMAS ISLAND
ASHMORE AND CARTIER ISLANDS
COCOS (KEELING) ISLANDS
CORAL SEA
Willis Group
CORAL SEA ISLANDS TERRITORY
VANUATU
Cato Island
NEW CALEDONIA
INDIAN OCEAN
AUSTRALIA
SOUTH PACIFIC OCEAN
NORFOLK ISLAND
TASMAN SEA
NEW ZEALAND
SOUTHERN OCEAN
HEARD AND McDONALD ISLANDS
AUSTRALIAN ANTARCTIC TERRITORY
ANTARCTICA

Source—Promotion Australia

The internal Territories of Australia are the Northern Territory, the Australian Capital Territory and the Jervis Bay Territory. The seven external Territories under Australian Administration are: Norfolk Island; the Territory of Heard and McDonald Islands; the Australian Antarctic Territory; the Territory of Cocos (Keeling) Islands; the Territory of Christmas Island; the Coral Sea Islands Territory and the Territory of Ashmore and Cartier Islands.

More detailed statistics and additional descriptive matter are to be found in the Annual Reports of the administrations of the various Territories and in the *Northern Territory Statistical Summary* (1306.7) and the *Australian Capital Territory Statistical Summary* (1307.8) issued by the Australian Bureau of Statistics. Statistics for the Northern Territory and the Australian Capital Territory are also included in chapters dealing with particular subjects.

THE NORTHERN TERRITORY

General Description

The total area of the Northern Territory is 1,346,200 square kilometres. The seat of Government is Darwin on the north coast. The estimated resident population of the Darwin Statistical Division at 30 June 1986 was 72,937.

Northern Territory self-government

The Northern Territory was established as a self-governing territory by the *Northern Territory (Self-Government) Act 1978* of the Commonwealth. Under that Act, the Commonwealth transferred most of its powers to the Government of the Northern Territory.

In all fields of transferred power, the Government is similar to that of the Australian States, with some differences in titles, for example there is an Administrator instead of a Governor and a Chief Minister instead of a Premier.

The Administrator, appointed by the Governor-General, has responsibility for administering the Government of the Northern Territory. The Administrator is advised by an Executive Council composed of all Northern Territory Ministers, led by the Chief Minister, and acts with the advice of the Executive Council on all matters transferred to the Northern Territory. The Administrator acts with Commonwealth advice on matters not transferred.

The Legislative Assembly of the Northern Territory is the Northern Territory's Parliament. It has 25 Members, who are elected for a period of four years. A Speaker is elected by, and Ministers are appointed from, the Members of the Legislative Assembly. A Ministry of nine is responsible for the administration of all transferred powers and acts through a number of departments and authorities, most of which are staffed by the Northern Territory Public Service.

Local government was established in Darwin in 1957 and later in regional centres. Municipal councils are elected by universal adult franchise, with elections at intervals of not more than three years. Provision has been made for a limited form of local government by smaller communities. There has been considerable interest in this provision, particularly in Aboriginal communities.

Development of administration

Upon the extension of New South Wales westwards to the 129th east meridian in 1825, the Northern Territory was incorporated in that colony, but in 1863 it was annexed by Royal Letters Patent to the province of South Australia. With the adjacent islands, it was transferred to the Commonwealth on 1 January 1911.

From 1911 until 30 June 1978, the Commonwealth administered the Northern Territory under the provisions of the *Northern Territory (Administration) Act 1910*, as amended.

The Act provided for an Administrator, appointed by the Governor-General, to administer the Northern Territory on behalf of the Commonwealth Government.

By amendment of the Act in 1947, a Legislative Council comprising seven official and six elected members, with the Administrator as President, was created to make laws for the peace, order and good government of the Northern Territory. Composition of the Legislative Council was changed by further amendment in 1959 to provide for six official members, three nominated non-official members and eight elected members, and for an Administrator's Council to advise the Administrator. The Act was further amended in 1974 to provide for a Legislative Assembly of 19 elected Members and for a Speaker to be one of those Members, elected by the Members.

Laws passed by the Assembly were presented to the Administrator for assent. The Administrator was required to reserve laws on specific subjects for the pleasure of the Governor-General who was empowered to assent, withhold his assent or refuse his assent in part to such laws, or to return them to the Assembly with recommended amendments.

On 1 January 1977, the Commonwealth Government began a program of transferring executive powers to the Legislative Assembly by amendment of the Northern Territory (Administration) Act. A separate Northern Territory Public Service was created and administrative powers were transferred. Positions of Executive Member were created under the Act. These Members exercised ministerial-type powers in respect of transferred matters such as policy, fire brigade, local government and correctional services. An Executive Council replaced the Administrator's Council.

On 1 July 1978, the Northern Territory (Self-Government) Act came into force and established the Northern Territory as a body politic under the Crown. This Act also provided for the appointment of an Administrator by the Governor-General. It created offices of Ministers of the Northern Territory who, together with the Administrator, formed the Executive Council of the Northern Territory. A Northern Territory Government, comprising Ministers of the Northern Territory, was established with full responsibility for a range of State-type transferred powers administered through a Northern Territory Public Service and a Treasury. A Northern Territory flag was raised for the first time on 1 July 1978, the date upon which the Northern Territory became self-governing.

Major matters not transferred on 1 July 1978 were the mining of uranium and other prescribed substances, Aboriginal land matters, health, education and the Supreme Court. Powers in respect of health, education and the Supreme Court were progressively transferred from the Commonwealth to the Northern Territory Government during 1979.

At the end of 1979, the only major powers retained by the Commonwealth in the Northern Territory were those relating to rights in respect of Aboriginal land and the mining of uranium and other prescribed substances. Since the end of 1979, the Northern Territory, although remaining a Territory of the Commonwealth and still subject to Commonwealth laws made under Section 122 of the Constitution, is in most respects a self-governing Territory.

The Northern Territory is represented in the Parliaments of the Commonwealth by one Member in the House of Representatives and two Senators, whose terms of office coincide with that of the member in the House of Representatives. Since October 1984 the Cocos (Keeling) Islands have been included in the Northern Territory electorate for the purposes of all federal elections and referenda.

Physical geography and climate

The Northern Territory has a mainland coastline that is 5,100 kilometres long, with a further 2,100 kilometres of coast around off-lying islands. A broad, shallow, low-gradient continental shelf, being less than 200 metres deep, runs for more than 140 kilometres offshore. Most of the coast is low-lying; cliffs, rarely exceeding 20 metres high, have been cut into weathered lateritic rocks, and there are active and cemented dunes, more than 50 metres high, on the western shore of the Gulf of Carpentaria. Coral reefs are best developed on the north coast and around off-lying islands. Most of the coastline consists of unvegetated mudflats, or mangrove swamps, which cover an area of approximately 2,400 square kilometres. The large tidal range of the north-western coast and the low gradient of the coastal lowlands means that some of the larger rivers are tidal for more than 100 kilometres upstream from their mouth. There are extensive seasonally-flooded coastal plains and black soil plains fringing the river systems, between the dissected lateritic lowlands, along much of the coast to the north-west and around the Gulf of Carpentaria.

Inland, the coastal lowlands merge into the dissected sandstone plateaux of Arnhem Land to the north, the granitic and sandstone Ord–Victoria river plateaux to the west, with rounded ridges of largely metamorphic rocks between those plateaux. The central section of the Northern Territory is formed of shallowly dissected lateritised sandstone ridges and sandplains. To the west there are the Lander dunefields with east–west trending longitudinal dunes, and to the east the black clay plains and limestone or sandstone rises of the Barkly Tablelands. The southern end of the Northern Territory is dominated by the Central Australian Ranges. These consist of granitic, sandstone and quartzitic ridges, separated by sandplains or stony lowlands. The folded Macdonnell Ranges, running east–west, contain the highest point in the Territory, Mount Zeil, 1,511 metres high. To the south-east there is a part of the Simpson Desert with north-west–south-east trending longitudinal dunes.

There are two main climatic divisions: the wet season from November to April; and the dry season from May to October. The changes of weather are uniform and regular. Nearly all the rainfall occurs in the summer months.

Fauna and flora of the Northern Territory

The Northern Territory contains an immense array of faunal habitats, from arid deserts to the wet/dry tropics. Consequently, the fauna is characterised by species abundance, many of which are endemic to the Territory.

There are about 378 species of birds, 264 reptiles, 125 mammals, 42 amphibians and 100,000 species of insects, well represented by termites, ants and butterflies. In contrast to these distinctly Australian terrestrial fauna, the marine fauna of the Northern Territory is very similar to the Indo–Malay Archipelago immediately to the north.

The Northern Territory is famous for its herds of wild buffalo although introduced from Timor. There are also feral herds of banteng cattle, Timor ponies and samba deer which are confined to the Cobourg Peninsula.

The most distinct faunal region is centred on the sandstone escarpment of Arnhemland, including Kakadu National Park which is on the World Heritage List. Amongst the endemic fauna to be found there are the black wallaroo, the white-striped sheath-tailed bat, the blackbanded pigeon and the white-throated and Carpentaria grass-wrens. There are also endemic fish (rainbow and primitive archer fish), insects (Leichhardt's grasshopper), and reptiles (Oenpelli python, a gecko, and a stunted variety of Johnston's freshwater crocodile).

In the central deserts surrounding Alice Springs, the harsh climate promotes crypticism among the smaller native species, but plagues of rodents and small marsupials occasionally emerge following suitable rainfall. Distinctly Australian species include the bilby (a bandicoot), the thorny mountain devil (a lizard) and the Major Mitchell cockatoo. Snakes, many of which are venomous, are common throughout all habitats in the Territory. Introduced pests, especially the rabbit, can become extremely abundant in arid areas and constitute a serious threat to the pastoral industry. Similarly, the introduced fox and feral cats have been implicated in the decline or extinction of several native species.

Northern Territory vegetation is Australian in character although there is a significant component of the flora derived from the Indo–Malayan regions. In the 'Top End', the monsoon climate, the frequent fires associated with it and the poor soils, support eucalypt forests with open savanna understoreys. Pockets of monsoon forests, similar to rainforest, occur on sites with superior moisture supply during the seven month drought. Associated with the lower rainfall further inland, the height and density of forests decreases to form low woodlands. On the Barkly Tablelands and parts of the Victoria Rivers district, savanna with scattered shrubs occur. On the sandy plains of the interior and on the rugged sandstone escarpments, spinifex grasses predominate with occasional stunted shrubs. The country surrounding Alice Springs carries acacia scrub called 'mulga'. Where this community has been severely disturbed it is replaced by spinifex. There are some 180 different families of vascular plants in the Northern Territory, with over 3,000 species. However little of the area has been well studied and future exploration will add to our knowledge, especially in the central and northern portions of the Territory for which there are no published floras.

Water

The Northern Territory Government provides water and sewerage facilities in four of the five major centres—Darwin, Alice Springs, Katherine and Tennant Creek. In the other major centre, Nhulunbuy, the mining company North Australian Bauxite Company provides those services. Facilities are also provided for numerous Aboriginal communities and all smaller gazetted towns such as Pine Creek, Mataranka, Elliott and Finke. Facilities for the new Yulara Tourist Village near Uluru (Ayers Rock) are provided by the Yulara Corporation, and in Jabiru they are provided by the Jabiru Town Development Authority.

Darwin is served by the Darwin River Dam, situated some 70 kilometres from the city. The rockfill dam was completed in 1972. The dam is 30 metres high with a crest length of 564 metres, has an active storage of 230 million cubic metres and a safe draft of 90 megalitres a day. Studies are also being carried out to identify future sources to meet the growing needs of the Darwin region.

Katherine is supplied with treated water from the Katherine River, but with the proposed development of Tindal RAAF base near Katherine, feasibility studies are in progress to assess future supplies from various dam sites on the Katherine River system.

Alice Springs, Tennant Creek and all other towns and communities are supplied by bores from groundwater sources. Alice Springs has twenty production bores at Roe Creek. Tennant Creek has ten at Kelly Well and three at Cabbage Gum.

Soil conservation

The Conservation Commission of the Northern Territory administers soil conservation and control legislation, undertakes resource inventories to assess land capabilities and conducts soil erosion works on behalf of government and private sectors.

Population

The population of the Northern Territory at 30 June 1987, was 156,700 persons. For further information, *see* Chapter 6, Demography.

Aboriginal Affairs

Policy

The Government is committed to policies of Aboriginal self-management at all levels. Involvement of Aboriginals in delivery and planning programs, and in all stages of the development and implementation of policy is paramount.

The basis of the Government's approach is to secure access to government services for Aboriginals equal to that accorded other Australian citizens, together with additional services appropriate to Aboriginals' state of disadvantage, and in recognition of a community obligation deriving from Aboriginals' past dispossession and dispersal.

Legal status

As Australian citizens, Aboriginals are entitled to equality before the law. For the purpose of administering various programs designed to benefit Aboriginals, the Department of Aboriginal Affairs and other Commonwealth Government departments and agencies define an 'Aboriginal' or 'Torres Strait Islander' as a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he or she lives.

Land and land rights

Aboriginals who are able to prove strong traditional links with unalienated Crown land may make a claim before the Aboriginal Land Commissioner, a judge of the Northern Territory Supreme Court. The *Aboriginal Land Rights (Northern Territory) Act 1976* requires the Land Commissioner, in hearing a claim, to consider a number of matters in addition to traditional ownership before making a recommendation to the Minister for Aboriginal Affairs. The Minister can then accept or reject the Aboriginal Land Commissioner's recommendations.

Minerals on Aboriginal land remain the property of the Crown. The Aboriginal Land Rights Act provides that mineral exploration can only proceed with the consent of the appropriate land council, which in turn must abide by the wishes of the traditional Aboriginal owners of the area concerned. Pre-existing mining interests were exempt from this requirement. In all cases where there is disagreement on terms and conditions, the Minister for Aboriginal Affairs is able to appoint an arbitrator.

Royalties from mining on Aboriginal land are paid into an Aboriginals Benefit Trust Account and are distributed to pay administrative expenses of land councils, to communities affected by mineral developments and, on the recommendation of an advisory committee, to Aboriginal communities of the Northern Territory generally. Control of uranium mining has been reserved by the Commonwealth and special arrangements have been made between the Commonwealth and the Northern Territory Governments in relation to payments in lieu of royalties.

In August 1985, the Commonwealth Government announced an intention to amend the Aboriginal Land Rights Act on the basis of a preferred National Land Rights Model which the Government would like to see adopted in all States. This model proposes land claims to unalienated Crown land on the basis of traditional entitlement, historical association, long-term occupation and to meet specific needs. It would confer substantial rights in relation to mining on Aboriginal land but there would be no veto on exploration or mining.

Aboriginal communities are also being assisted to purchase land on the open market. The Aboriginal Development Commission, established in 1980, assists Aboriginal and Torres Strait Islander communities, groups and individuals to acquire land for a variety of purposes, engage in business enterprises, obtain finance for housing and other personal needs, and to receive training where necessary.

Community services and affairs

Government policy in the administration of Aboriginal affairs is to encourage State and Commonwealth departments and instrumentalities to provide services to Aboriginal Australians as to other Australian citizens and to take measures to ensure that these services are appropriate, accessible and reflect the variety of Aboriginal life styles.

Special programs for Aboriginals

Attention is being given to changing the institutional character of Aboriginal communities in the Northern Territory. Assistance is designed to encourage and strengthen the capacity of Aboriginals to manage their own affairs, to increase their economic independence, and to reduce social handicaps facing them.

Government policy is to provide Aboriginal primary school children in Aboriginal communities with education in their own language as far as practicable. Bilingual education programs initiated in Northern Territory Aboriginal communities in 1973 now operate at 16 schools, using 12 Aboriginal languages. Aboriginal independent community schools, supported by the Government, also operate bilingual education programs.

Land Tenure

On 26 October 1987, 154,931 km^2 were held under freehold title; 746,320 km^2 under leasehold; 17,312 km^2 under various licences; 343,552 km^2 were Aboriginal freehold (this figure includes land granted under the *Aboriginal Land Rights (NT) Act 1976* and land which has since been claimed and over which title has issued); 824 km^2 set aside for government use; and 83,261 km^2 unalienated. Land rent collected for the year 1986–87 amounted to $469,000.

Following the report of the Aboriginal Land Rights Commissioner in April 1974, the Commonwealth Government introduced the *Aboriginal Land Rights (NT) Act 1976*. This Act which commenced on Australia Day, 26 January 1977, gave traditional Aboriginals inalienable freehold title to former Aboriginal reserves and some other land, amounting to approximately 19 per cent of the Northern Territory, and provided a procedure for them to claim title to other areas of unalienated Crown Land.

With the commencement of the *Crown Lands Amendment Act (No. 3) 1980* most existing leases in the Territory were automatically converted to freehold tenure making it the rule rather than the exception. Most pastoral leases and all special purposes leases were excluded from automatic freeholding.

Additional amendments to the Crown Lands Act were introduced in 1983 which enable Pastoral Lease holders to apply to have their leases converted to perpetual tenure after certain criteria have been complied with.

The various forms of lease or licence of lands are described below.

Pastoral leases	—granted for periods not exceeding 50 years.
Perpetual pastoral leases	—granted in perpetuity and are only granted after certain criteria have been complied with.
Crown leases (Term)	—granted for a term of years, and in majority of cases can be converted to freehold when developed.
Crown leases (Perpetual)	—granted in perpetuity.
Special purposes leases	—granted for a term of years or in perpetuity for purposes other than pastoral, agricultural or mining, or for private residential purposes within a town.
Grazing licences	—granted to graze stock on Crown Lands for periods not exceeding one year.
Occupational licences	—granted for manufacturing, industrial or any prescribed purposes for periods not exceeding five years.
Miscellaneous licences	—granted for periods not exceeding one year.

Production

Pastoral and agricultural industries

Beef cattle production is the major rural industry in the Northern Territory. The beef industry has been characterised throughout its history by a slow rate of expansion due mainly to the quality of pastures in the top end of the Territory, periodic droughts in the Alice Springs district and remoteness from large domestic markets and other market infrastructure. Although the rate of expansion has been slow it has been persistent. Significant developments in the last two decades include: the establishment of a beef road system; expansion of market outlets, including live animal exports to Malaysia and Brunei; introduction of tropical cattle breeds in the northern regions; continued private investment in water supplies, fences and yards; and development of low cost aerial mustering techniques. Export licenced abattoirs now operate in Alice Springs, Tennant Creek, Katherine, and Point Stuart and Mudginberri on the northern coast. The latter three abattoirs process both cattle and buffalo for export. The gross value of cattle production in 1985–86 was $108 million.

In the Darwin district, the cattle industry has continued to be augmented by the buffalo meat industry. Interest in buffalo control has received a significant boost due to the recent development of a high-priced live export trade with Indonesia. Buffalo surplus to the live export trade requirements continue to be slaughtered predominantly for the West German market. The gross value of the buffalo industry in 1985–86 was in the order of $6 million.

Both the cattle and buffalo industries of the Northern Territory are experiencing dramatic changes in management practices due to a campaign to eradicate brucellosis and tuberculosis from the herds. The campaign requires all stock to be manageable to the extent where a 100 per cent efficient muster can be carried out so controlled stock are segregated and protected from possible infection by non-controlled stock.

In 1980 the Agricultural Development and Marketing Authority (ADMA) was established to develop broadacre cropping industries to the point where export sales were viable. The ADMA has developed six project farms in the Douglas–Daly basin, 250 kilometres from Darwin. These farms provide a commercial environment for the development of the required levels of agronomic and economic efficiency. ADMA operates as the handling and marketing authority for these and other non-project farmers in the Territory. Grain handling depots have been established at Katherine and Douglas–Daly. Gross value of production in 1985–86 was $1.7 million.

NORTHERN TERRITORY: NUMBER, AREA AND LAND UTILISATION OF AGRICULTURAL ESTABLISHMENTS

					Total	
	Number of agricultural establishments	*Area used for crops (a)*	*Area under sown pastures and grasses*	*Balance of area (b)*	*Area*	*Percentage of NT land area (134,620,000 hectares)*
		—'000 hectares—				%
1981–82	300	2.0	55.6	77,078.0	77,135.6	57.3
1982–83	287	3.4	43.9	75,202.2	75,249.5	55.9
1983–84	283	5.2	32.6	73,648.7	73,686.5	54.7
1984–85	274	5.9	45.3	74,116.8	74,168.0	55.1
1985–86	276	7.1	32.8	72,882.5	72,922.4	54.2
1986–87	290	11.7	51.1	71,175.2	71,238.0	52.9

(a) Excludes duplication on account of area double cropped. *(b)* Used for grazing, lying idle, fallow, etc.

The horticultural industry in the Northern Territory has experienced very rapid expansion over the last five years. Value of production has increased from just over $200,000 in the early 1980s to in excess of $5 million in 1985–86. Very significant plantings of mangoes are as yet immature. The value of mango production is predicted to be in excess of $10 million by 1990 and will continue to expand thereafter. Commercial trials of cashew production are being undertaken and it is expected that these will be the forerunner for a $5 million industry. The top end of the Northern Territory has a natural advantage for horticultural production due to its capacity to produce the earliest maturing product in Australia for many lines of tropical fruit and vegetables. Table grape production in the Alice Springs district enjoys a similar advantage.

NORTHERN TERRITORY: AGRICULTURAL STATISTICS

	Unit	*1984–85*	*1985–86*	*1986–87*
Livestock numbers—				
Cattle	'000	1,484.0	1,457.5	1,439.3
Domesticated buffaloes	'000	13.3	12.9	15.0
Poultry	'000	223.9	229.0	239.0
Pigs	'000	3.0	3.1	7.0
Gross value of livestock slaughterings—				
Cattle and calves including domesticated buffaloes	$'000	80,390	111,091	102,700
Crops, Area—				
Grain Sorghum (grain and feed)	Hectares	2,428	3,197	4,795
Hay	Hectares	55	150	374
Tree fruit	Hectares	459	555	388
Bananas	Hectares	28	23	41
Vegetables	Hectares	306	270	454
Pastures and grasses (hay, seed, green feed)	Hectares	7,764	5,337	6,464
Total area used for crops (incl. pastures and grasses)	Hectares	13,678	12,481	21,363
Crops, Production—				
Sorghum for grain	Tonnes	5,068	2,867	6,863
Hay	Tonnes	97	49	1,232
Bananas	Tonnes	760	650	816
Pastures and grasses (hay, seed)	Tonnes	7,895	4,625	2,574
Gross value of crops—				
Sorghum for grain	$'000	801	487	1,098
Fruit	$'000	629	1,115	1,406
Vegetables	$'000	1,512	2,755	5,387
Pastures and grasses	$'000	1,038	596	255
Total crops (incl. pastures and grasses)	$'000	5,210	7,486	12,277
Gross value of agriculture	$'000	*(a)*85,600	125,217	123,133

(a) Excludes pigs, poultry, milk and eggs.

Mining

Northern Territory mining establishments have continued to increase from 1983. One of the main factors is the development of gold mining ventures in the Tennant Creek, Hayes Creek, Pine Creek, Tanami Desert and Alice Springs areas.

The principal mining areas are the Alligator Rivers Region for uranium; Gove Peninsula for bauxite/alumina production; Groote Eylandt for manganese; and Tennant Creek for copper and gold.

NORTHERN TERRITORY: MINING ESTABLISHMENTS

		1984–85	*1985–86*	*1987–88*
Establishments operating end of June	No.	21	26	33
Average employment over whole year—persons *(a)*	No.	1,742	1,903	2,089
Wages and salaries	$m	49.5	57.7	70.2
Turnover	$m	623.7	615.5	826.9
Opening stocks at 30 June	$m	168.4	153.7	208.0
Closing stocks at 30 June	$m	155.8	184.2	286.9
Purchases, transfers in and selected expenses	$m	144.8	165.5	194.7
Value added *(b)*	$m	466.3	480.5	711.2
Fixed capital expenditure *(c)*	$m	61.5	n.a.	n.a.

(a) Includes working proprietors. *(b)* Turnover plus increase (or less decrease) in the value of stocks less purchases, transfers in and selected expenses. Commencing with 1978–79, 'rent, leasing and hiring revenue' and 'rent, leasing and hiring expenses' have been included in the calculation of value added and its components 'turnover' and 'purchases, transfers in and selected expenses'. *(c)* Outlay on fixed tangible assets less disposals.

The Department of Mines and Energy encourages and assists the development of an efficient mining and processing industry throughout the Northern Territory. Through five divisions, the Department administers relevant legislation and provides a wide range of services.

The Mines Division acts as a single point of contact for all mineral mining related matters in the Northern Territory. In this context it is also responsible for controlling and ensuring the efficient, orderly and safe exploration for, and recovery and utilisation of, mineral resources in the Northern Territory. The Division formulates and implements policy and legislation designed to investigate the feasibility of mining and development proposals, provides technical advice to prospecting and mining operations, and strives for compatibility between mining and alternate land uses. It also administers all mineral titles and is responsible for the collection of mineral royalties.

The Geological Survey Division provides the essential scientific basis for the overall operations of the Department of Mines and Energy. The Division studies the regional geology and geophysics of the Northern Territory and publishes reports of this work for use by industry, other government departments and the public.

The Energy Division is responsible for the development and implementation of energy policies, research into alternative sources of energy, planning of energy supply and consumption in the Northern Territory and for safety and environmental supervision of petroleum exploration. This includes promotion of the exploration for and development of indigenous energy resources, research into diversification of the Northern Territory's energy base, energy conservation and security.

The Alligator Rivers Region Unit is responsible for the oversight and coordination of all stages of uranium mining, milling and rehabilitation processes in the area. The unit is the focal point for the industry and the public for matters concerning uranium mines in the Northern Territory.

Offshore petroleum resources

The development of offshore petroleum resources is set to change the entire progress and development of the Northern Territory.

BHP Petroleum, which is putting 50 per cent of its Australian exploration effort into the search for oil in the Timor Sea, recently doubled production from the Jabiru venture with the addition of another subsea well and by modifying facilities. Production is now about 29,000 barrels per day.

In August 1987, the Minister for Mines and Energy authorised the release of four new exploration areas in the Bonaparte Gulf and the Arafura Sea, and the interest shown by the petroleum industry is an optimistic indicator of the promise of these regions.

The Timor Sea is Australia's most promising offshore area, and the increasing activity is heralding a substantial growth in production over the next couple of years. Expenditure on exploration and production in 1986 reached a record $120 million, treble the amount spent in the previous year. Geophysical activity, which usually precedes drilling, also established record figures in 1986. More than 11,000 kilometres of seismic survey line was run, double the previous year's figures.

Forestry

Forestry activities in the Northern Territory commenced in 1959 under the Forestry and Timber Bureau; later a State-type service was developed under the Department of the Northern Territory.

In July 1978, with the granting of self-government, forestry became the responsibility of the Territory Parks and Wildlife Commission, now the Conservation Commission of the Northern Territory.

Present activities fall into four main areas: Urban Forestry, Plantation Forestry, Native Forest Management and Conservation.

The Urban Forestry section is aimed at improving the urban environment throughout the Northern Territory through programs of park and street beautification and arid area species testing.

The Plantation Forestry section is predominantly based on plantation establishment on more favourable sites on Melville Island and is ultimately aimed at import replacement. The major species in use is *Pinus caribaea,* though early plantings were largely cypress pine. A small pressure treatment plant providing treated round timber is operated by the Aboriginals on nearby Bathurst Island.

Management of native forest is currently confined to the Murganella area of Arnhem Land where a policy of protection from fire has resulted in extensive regeneration of cypress pine and native hardwoods, *Eucalyptus tetrodonta* and *E. nesophila*. Current research in this area is aimed at development of sound management prescriptions for treatment of this regeneration.

In its conservation role, the Conservation Commission has given emphasis to fire and ecological studies throughout the Territory together with seed collection, testing and propagation, and gene pool conservation of rare or unique species.

Fishing

Seafoods landed in the Northern Territory in 1986–87 totalled 6,275 tonnes and had an estimated value of $36.64 million. Prawn fishing continues to dominate the industry with 3,481 tonnes being landed, worth an estimated $31.15 million. Barramundi remains the second most important species fished. Landings stood at 532 tonnes and were valued at $1.9 million. In order of estimated landed value, mackerel, mud crabs, threadfin salmon, snapper, shark, bay lobster, bream, scallops and squid are the next most important species taken.

Management control measures have been introduced in the prawn, barramundi and mud crab fisheries in order to prevent over-exploitation of these fisheries resources.

Under an agreement to 31 July 1987, 50 pairs of Taiwanese trawlers were permitted to catch up to 15,000 tonnes of fish from areas off the north and north-west coasts of Australia. The western boundary of the authorised area (116°E longitude) was moved eastward to 117°30′ E longitude after 31 July 1987, an adjustment which was considered necessary to ensure that development of an Australian Fishery would not be inhibited.

NORTHERN TERRITORY: PRINCIPAL FISHERIES

		1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
Prawns—							
Estimated gross weight of prawn catch	Tonnes	2,986	2,402	2,462	2,154	3,302	3,481
Gross value of prawns	$'000	15,250	15,692	17,587	13,837	24,661	31,145
Fish—							
Estimated live weight of fish catch	Tonnes	1,897	1,694	1,564	1,784	2,523	2,550
Gross value of fish	$'000	2,944	3,232	2,584	2,800	3,973	4,393

Secondary industries

The types of secondary industries that have developed in the Northern Territory have been largely based on demand from the local markets, some processing of primary production for exports, including the processing of mined ores and beef, together with exports in the mining and construction industries.

The isolation of the Northern Territory from the major population areas of Australia and resultant high transportation costs make other than local market expansion difficult.

While industry is limited to local markets, industrial expansion will be small. However determined efforts are being made to take advantage of the proximity of Darwin to the rapidly expanding South East Asian markets. It is envisaged that in the longer term secondary industry will be largely export based.

The following table shows results of the Manufacturing Censuses taken in respect of the years 1982–83 to 1984–85. No Manufacturing Census was conducted in respect of 1985–86.

NORTHERN TERRITORY: MANUFACTURING ESTABLISHMENTS

	Unit	*1982–83*	*1983–84*	*1984–85*
Establishments at 30 June	No.	117	115	137
Persons employed *(a)*	No.	2,434	2,432	2,645
Wages and salaries	$m	45.2	49.3	58.3
Turnover	$m	343.9	358.7	407.4
Opening stocks at 30 June	$m	82.9	76.5	77.4
Closing stocks at 30 June	$m	81.3	76.6	77.7
Purchases, transfers in and selected expenses	$m	251.3	248.6	278.9
Value added	$m	91.0	110.2	128.8

(a) Average over whole year. Includes working proprietors.

Tourism, Parks and Reserves

Tourism is second only to mining as the Territory's most important industry with direct earnings for 1987–88 estimated at $300 million.

In 1981–82, 411,000 people travelled to the Territory, increasing to approximately 830,000 in 1987–88, representing a visitor growth rate of 17 per cent. This growth rate continues to encourage investment in tourism facilities and, since the early 1980s, well over $600 million has been invested in tourism-related facilities in the Territory.

Major developments include the Darwin and Alice Springs Casinos, the Yulara Resort, Sheraton Hotels in Alice Springs and Darwin, and the Beaufort Hotel and Convention Complex in Darwin. Major development plans include wilderness attractions and facilities at Kings Canyon, Litchfield Park and Cobourg Peninsula.

The Northern Territory Tourist Commission has had responsibility for the promotion of tourism since it was formed in 1980. It has its head office in Alice Springs, a regional office in Darwin and bureaus in all States with two each in New South Wales and Victoria, plus overseas regional offices in London, Los Angeles, Tokyo, Frankfurt, Singapore and New Zealand.

In 1986, and again in 1987, the Commission won the Australian tourist industry's most prestigious accolade, the National Award for the Best Australian Tourism Authority/Commission.

The Tourist Commission's budget for the 1988–89 financial year is $16.1 million.

There are 52 parks and reserves, covering about 5,800 square kilometres, under the care, control and management of the Conservation Commission of the Northern Territory. The Commission's functions include the preservation and protection of natural and historical features and the encouragement of public use and enjoyment of land set aside under its control.

In addition, the Gurig National Park (2,207 square kilometres) is managed by Cobourg Peninsula Sanctuary Board, and the Kakadu National Park (15,923 square kilometres) is managed by the Australian National Parks and Wildlife Service. Uluru National Park (Ayers Rock–Mt Olga) is managed by the Australian National Parks and Wildlife Service in conjunction with the park's traditional Aboriginal owners. Visitors to Uluru National Park have increased from an estimated 86,900 in 1981 to approximately 250,000 in 1987 while at Kakadu numbers have increased from 31,500 to 185,000 in the same period.

Railways and Roads

Railways

Passenger and freight train services commenced in December 1980 over the then new 831 km standard gauge Tarcoola–Alice Springs railway. Direct services from Sydney to Alice Springs commenced in 1984.

Roads

The Stuart Highway is the principal north–south axis route for the Northern Territory connecting Alice Springs, Katherine, Tennant Creek and Darwin to Adelaide. The section Darwin–Alice Springs is 1,486 kilometres long and sealed over its full length. The section south of Alice Springs is sealed to the South Australian border, a distance of 292 kilometres.

The Barkly Highway is the principal route to and from Queensland via Mount Isa. It is 636 kilometres long, 432 kilometres of this being within the Territory, and is sealed. Running approximately east–west, it connects to the Stuart Highway some 26 kilometres north of Tennant Creek.

The Victoria Highway, the principal access route to and from Western Australia via Kununurra, is 468 kilometres from Katherine to the Northern Territory border and is sealed.

These highways are used to carry a variety of freight, including cattle, particularly between the railheads at Mount Isa and Alice Springs. They provide access to meatworks at Wyndham (Western Australia), Cloncurry (Queensland) and Katherine. In addition, they play a particularly important part in the Northern Territory economy through their association with the tourist industry.

The program for upgrading the Stuart and Barkly Highways was commenced in the early 1970s and the ongoing program is continuing to bring these roads to National Highway Standards. A strategy to upgrade the Victoria Highway is being developed.

Education

Responsibility for education in the Northern Territory was transferred from the Commonwealth Department of Education to the Northern Territory Government on 1 July 1979.

Details of the responsibilities are outlined in the *Northern Territory of Australia Education Act 1979*. Under the Act, the Minister for Education is responsible for the general administration and control of education services. The Act states that the Minister may take all measures which, in his opinion, are necessary or desirable to: assist parents in the Territory in fulfilling the responsibility to educate their children according to the individual needs and abilities of those children; make education services, provided by the Minister, available to all people in the Territory; and, assist all people of the Territory with their own education. The Act also provides for the establishment of advisory councils.

Schools in the Northern Territory

There are some 165 schools in the Northern Territory with a total student population of approximately 35,000. About one-third of students are of Aboriginal descent. In addition to primary and pre-schools, there are 11 government high schools, one secondary correspondence school and three private high schools. There are three area schools offering secondary courses and two residential colleges for Aboriginal students. There are also 16 government schools in Aboriginal communities that offer post-primary courses and six mission schools with post-primary programs.

Teaching staff are provided by the Northern Territory Teaching Service and qualified applicants are recruited from all parts of Australia.

With the exception of Year 12 level, where most students are assessed by the Senior Secondary Assessment Board of South Australia, all aspects of curriculum, Course accreditation and student assessment are the responsibility of the Northern Territory Board of Studies, with subject area committees in English, Languages other than English, Mathematics, Science, Computer Education, Social and Cultural Education, the Arts, Health and Physical Education and Life/Work Skills. Apart from Life/Work Skills, which is concerned with secondary education only, all committees span primary and secondary education from Transition to Year 12.

Subject area committees define the core of essential skills and understanding in which all students should gain competence and the educational experiences which they should have during their primary and junior secondary schooling. They also identify or develop the recommended curricula, which consists of those courses and materials which are regarded as the best available to assist schools in achieving the objectives specified in the core, as well as skills, understanding, content and experiences considered appropriate for extension beyond the core.

In addition to curriculum development, subject area committees provide for guidelines on the assessment of student performance, examples of assessment instruments and, in some subjects, moderation of student assessment. The Junior and Senior Secondary Studies Certificates are issued by the Northern Territory Board of Studies at Year 10 and Senior levels respectively.

The work of subject area committees is coordinated and supplemented by curriculum officers at central and regional levels and by a range of educational services.

The two Schools of the Air in the Northern Territory, one at Katherine and one at Alice Springs, have developed individual programs and provide correspondence and radio lessons for students in the Years One to Seven. One correspondence school caters for isolated secondary students. Aerial and road patrols are carried out regularly to provide teacher–student and parent contact.

Special schools are located in Alice Springs and Darwin for handicapped children. However, where appropriate, students with special needs are integrated into primary and secondary schools. Guidance and Special Education Advisory Services operate from the two regional offices in Alice Springs and Darwin.

A program of exchange between Indonesia and the Northern Territory is continuing in which up to two teachers from each country are exchanged for a school year, and four senior students spend up to six months in each country. In addition, the Northern Territory Department of Education encourages school-organised excursions to Bali and other South-East Asian localities.

Aboriginal education

Most Northern Territory Aboriginals live away from town centres and their education is provided in various settings including mission schools, government schools on or near settlements or Aboriginal townships, on pastoral properties and outstations or homeland centres.

There has been an increasing number of requests from outstations for the Department of Education to provide assistance with Aboriginal education. A small group of teachers is currently working in this field and developing special methods and modified courses to help overcome the difficulties faced by isolated outstation groups in their quest for education.

Government schools for Aboriginal children in out-of-town centres provide tuition at pre-school and primary school level with a number of them providing post primary (secondary age) classes as well.

For Aboriginal children who wish to proceed to secondary schools there are now two residential colleges: Yirara and Kormilda. These colleges are regionally based but situated near urban centres, Yirara at Alice Springs and Kormilda in Darwin. They provide secondary age students from outlying centres with the opportunity to undertake a range of courses at an urban high school,

Bilingual education programs in Northern Territory schools in Aboriginal communities have attracted wide interest from within Australia and overseas. There are 16 schools offering bilingual programs to approximately 3,500 students. Many other schools include Aboriginal language and culture in the curriculum. Fourteen languages are now being used in the program and six further languages are under consideration. Many school children are acquiring initial literacy skills in their own language. Half of the curriculum is devoted to instruction in an Aboriginal language, and during the other half a structured English course forms an integral part of the bilingual program. Other aspects of Aboriginal education are covered in the TAFE section.

Technical and Further Education—TAFE

Technical and further education services in the Northern Territory are provided by the Darwin Institute of Technology and the Department of Education through its Institute of Technology and Further Education Division.

The Department has a number of TAFE Colleges and services the TAFE Advisory Council which advises the Minister for Education on Territory-wide TAFE policy issues. The Council membership includes representatives of employer and employee organisations and Northern Territory TAFE colleges.

The TAFE Colleges in the Northern Territory are outlined below.

Darwin Institute of Technology

The Institute was opened in 1974 as the Darwin Community College and was redesignated the Darwin Institute of Technology in 1985. It is an autonomous multi-level institution offering over 100 award programs in both advanced education and technical and further education, and a wide range of non-award recreational and continuing education programs.

The campus covers 58 hectares at Casuarina in Darwin's northern suburbs, 13 kilometres from the city centre, and the School of Australian Linguistics is located at Batchelor.

Advanced education programs are offered at degree, post-graduate diploma and associate diploma level. Technical and further education programs are offered at certificate, trade certificate, post-trade certificate and apprenticeship trade course level.

The Institute also provides examination facilities and some tutorial assistance to external students in the Northern Territory studying at other Australian Institutions, through the External Studies Centre at the Casuarina campus. International programs are offered through the School of Extension Services. In 1987, 1,469 net students were enrolled in advanced education programs, approximately 4,220 net in TAFE award courses and approximately 3,600 net students in non-award courses.

Alice Springs College of TAFE

Formerly the Community College of Central Australia, the Alice Springs College of TAFE is a multi-sector, multi-campus institution which provides recreational, remedial, pretrade, trade and paraprofessional studies. It has three campuses and has expanded rapidly in recent years in response to increasing demands.

Katherine Rural College

The Katherine Rural College was established to train people for employment in the Northern Territory rural industry. It offers a two-year, full-time residential course, leading to a Certificate in Rural Studies, intensive three-month long courses in basic stock-handling and station skills and short courses in areas such as horse-handling, horse-shoeing, explosives, welding, farm mechanics, pregnancy diagnosis and artificial insemination of cattle.

The College has a 3,440 hectare property north of Katherine and a 1,000 square kilometre property at Mataranka, south of Katherine.

Batchelor College

Batchelor College is a residential institution providing programs for Aboriginal people which lead in particular to teaching qualifications at advanced education and TAFE levels. The College also offers courses for Aboriginal adult educators and conducts courses related to community management. The College is situated in the town of Batchelor.

NT Open College

The Northern Territory Open College is a distance education institution which opened in January 1987 and offers services through a network of education centres and through lecturers based in many communities.

Finance

The following table gives details of government revenue and outlays that have been identified as relating specifically to the performance of local or State-type functions in the Northern Territory from 1984–85 to 1986–87. Receipts collected in the Northern Territory from Australia-wide sources (e.g. income taxes, customs duties, etc.) and outlays in the Northern Territory on items of a national character (e.g. defence, civil aviation and cash benefits paid to Northern Territory residents as part of national programs) are *not* included.

NORTHERN TERRITORY: OUTLAY AND REVENUE
($ million)

	1984–85	*1985–86*	*1986–87p*
OUTLAY			
Final consumption expenditure—			
Public order and safety	62.3	70.8	81.8
Education	144.1	161.6	180.1
Health	100.5	113.1	123.3
Social security and welfare	12.3	8.0	6.2
Other	293.8	312.7	284.0
Expenditure on new fixed assets—			
Education	21.9	27.1	41.9
Road transport	52.8	48.2	51.5
Housing and community development	68.1	70.7	67.4
Health	4.5	6.9	6.2
Social security and welfare	2.9	4.9	3.9
Electricity and other energy	36.9	99.4	136.8
Other	59.9	62.6	193.2
Expenditure on secondhand fixed assets (net)	–30.4	–12.6	–26.5
Expenditure on land and intangible assets (net)	–6.1	–20.3	–21.3
Increase in stocks	1.6	–3.0	–4.0
Interest paid	74.1	87.6	96.2
Personal benefit payments	1.4	1.7	1.5
Subsidies	74.9	63.2	53.9
Net advances to the private sector	46.5	50.8	14.8
Grants to non-profit institutions—current	52.7	63.8	66.5
Grants to private sector and public financial enterprises—Capital	0.5	0.7	1.1
Total Outlays	**1,075.3**	**1,217.7**	**1,230.2**
REVENUE			
Taxes, fees and fines	76.4	100.1	113.1
Property income	49.0	62.3	50.7
Net operating surpluses of public trading enterprises	27.1	–1.0	–6.4
Other revenue	3.5	11.4	10.0
Commonwealth Government grants	829.0	836.0	901.7
Commonwealth Government advances	84.1	102.5	75.4
Net borrowing	75.0	65.3	103.5
Other financing	–68.8	41.1	–17.8
Total Receipts	**1,075.3**	**1,217.7**	**1,230.2**

In addition to transactions relating to the Northern Territory in the Consolidated Revenue Fund and certain trust funds, the transactions of the following public corporations are included: Northern Territory Port Authority, Northern Territory Housing Commission, Northern Territory Electricity Commission, Corporation of the City of Darwin, Corporation of the municipalities of Alice Springs, Jabiru, Katherine, Litchfield, Palmerston and Tennant Creek.

THE AUSTRALIAN CAPITAL TERRITORY

General Description

The Constitution provides that the Seat of Government of the Commonwealth of Australia shall be in the State of New South Wales but distant not less than 160 kilometres from Sydney. After a number of alternative sites were considered, an area of 2,359 square kilometres, lying approximately 320 kilometres south-west of Sydney, was transferred to the Commonwealth as from 1 January 1911. A further 73 square kilometres at Jervis Bay were transferred as from 4 September 1915 to serve as a port for the Territory.

The primary responsibility for administering the Australian Capital Territory lies with the Australian Capital Territory Administration, within the Department of the Arts, Sport, the Environment, Tourism and Territories. The ACT Administration's responsibilities cover most functions carried out by State and municipal governments, including the leasing and management of land, housing, public transport, forestry, municipal and community services, general works, commercial regulation, industrial relations, employment and vocational training, legislative drafting, education and public health. Responsibility for policing and the courts lies with the Attorney General's Department.

As at 31 March 1988 the population of the Australian Capital Territory was 271,900.

Housing

In May 1987, the Government formally approved the alignment of ACT public housing operations with the Commonwealth–State Housing Agreement (CSHA) from 1 July 1987. As a result of this decision, Commonwealth funding assistance for public housing in the ACT will be provided on a similar basis to that provided to the States under the CSHA.

The role of the ACT Administration in the area of housing has changed significantly since 1930 when, as the Department of the Interior, it offered rental accommodation to public servants in Canberra. The proportion of houses and flats in the Australian Capital Territory occupied by tenants of the Administration has fallen steadily from 79.7 per cent of total occupied houses and flats in 1954 to 58.3 per cent in 1961, 28.1 per cent in 1971, 13.0 per cent in 1984, and 12.9 per cent in 1985. This portion rose slightly to 13.1 per cent in 1988.

Although there has been a considerable increase in the proportion of home ownership in the Australian Capital Territory since 1954, the demand for public housing has continued to increase. At June 1981 there were 2,126 persons on the waiting list for public housing. There were 1,554 in 1982; 1,757 in 1983; 2,141 in 1984; 2,756 in 1985; 1,781 in 1986, 2,080 in 1987, and 2,693 in 1988. Housing resources have not been able to keep pace with the demand; therefore rental accommodation and housing finance are now allocated on a means tested basis.

The Administration, in conjunction with the National Capital Development Commission, has endeavoured to expand public housing stock through annual building programs. The 1987–88 building program provided for the commencement of 273 dwellings and it is expected that 188 dwellings will be commenced during 1988–89.

Both private and public home building activity have continued to expand the stock of residential dwellings in the Australian Capital Territory. At June 1988 there were 23,362 occupied dwellings in the Central Canberra area; 20,758 in the Woden Valley and Weston Creek area; 27,509 in the Belconnen area; 17,365 in the Tuggeranong area; and 115 elsewhere in the Australian Capital Territory. The total number of occupied dwellings in the Australian Capital Territory at June 1988 was 89,109.

For further information *see* Chapter 20, Housing and Construction.

Community and Health Services

See also Chapter 9, Health.

The ACT Community and Health Service is a statutory authority within the portfolio of the Minister for Arts, Sport, the Environment, Tourism and Territories. The service is an integration of the ACT Health Authority and the Community Services Division of the former Department of Territories. The integration took effect from 1 July 1988.

The role of the Service is to provide a complete range of health, hospital and welfare services for the people of the Australian Capital Territory. The Service employs 4,435 full- and part-time staff members.

The Hospital Services Division operates Royal Canberra and Woden Valley Hospitals within the ACT public hospital system. Both hospitals provide inpatient and outpatient services including medical, surgical, psychiatric, nursing and other professional support services. The Division's ambulance service provides emergency treatment and transport, and inter-hospital transfers.

Other hospital related services operated by the Division are the Central Health Laboratory at Woden which provides pathology services, and the Health Services Supply Centre at Mitchell which provides linen, sterile instruments, transport, supply and engineering facilities.

Calvary Hospital, Queen Elizabeth II Home for Mothers and Babies and the Red Cross Blood Transfusion Service are funded through the Service's grant in aid program, and function within the ACT public hospital system. Post-basic education programming in midwifery, pediatrics, psychiatry, intensive care and geriatrics are conducted through both hospitals.

Nursing training in the ACT is conducted through the Canberra College of Advanced Education's Nurse Education Training Program which is funded through the Service's grant in aid program.

The Community Services Division operates health centres, child health clinics and home nursing services. Other community health services provided by the Service include health education, school dental and speech therapy services, and health and pharmaceutical inspections.

The Division also services the mental and special health needs of the general community, the elderly, the intellectually and physically handicapped, and those who are alcohol or drug dependent.

The Division provides welfare services including general family casework, emergency relief, juvenile justice services including Quamby Youth Centre, care and protection of children, adoption services and adult corrective services.

The Service also provides a range of community services including the Women's Information and Referral Centre, Regional Youth Centres, Children's day care, grant in aid programs and provision of community facilities.

Medical Research in the ACT is conducted at the John Curtin School of Medical Research at the Australian National University. One of the School's four divisions, the Division of Clinical Science, is located at the Woden Valley Hospital, along with the University of New South Wales' Centre for Chronic Disease and Disability.

Parks and Conservation

Since its establishment, Canberra has been developed as a garden city. The ACT Parks and Conservation Service manages the urban open space in the Territory, including national parks, reserves, parkland, sportsgrounds, public surrounds, rural picnic grounds and other landscaped public areas. The total urban area managed during 1987–88 increased by 180 hectares to a total of 9,400 hectares. Management of the urban area included newly developed areas in the new town of Tuggeranong, redevelopment of ageing landscape in the older suburbs and surrounds of Parliament House.

The Yarralumla Nursery, established in 1913, propagates trees and shrubs for use in development projects, as replacements in landscape maintenance and for issue to buyers of new home sites. In 1986–87, 481,270 trees and shrubs and 34,444 annual plants were produced.

The Horticultural Services Unit provides horticultural advice and tests turf grasses, trees, shrubs and new products and techniques for application in the Canberra environment.

Namadgi National Park

In June 1984 the former Gudgenby Nature Reserve (62,000 hectares) and part of the Cotter River Catchment (32,000 hectares) were combined to form a new national park. It is known as Namadgi and covers 40 per cent of the Australian Capital Territory. Namadgi shares a common boundary with the magnificent Kosciusko National Park (520,000 hectares) and other reserves in neighbouring New South Wales.

The topography and landscapes of Namadgi National Park and, consequently, the plant and animal communities, are extremely varied and include the only parts of the Territory with a sub-alpine climate. Habitat ranges from grassland of the valley floors, through woodland and mountain forest to sphagnum bogs, heath swamps and alpine woodland. Several high peaks rise to over 1,800 metres above sea level and include Mount Bimberi, the highest peak in the Australian Capital Territory.

Tidbinbilla Nature Reserve

The Tidbinbilla Nature Reserve (5,515 hectares) is located 43 kilometres south-west of Canberra. The Reserve includes much of the Tidbinbilla Valley, which ranges from 762 metres above sea level to 1,561 metres at Tidbinbilla Peak, the highest of the Tidbinbilla Range which forms the western boundary of the Reserve. As a consequence of the valley topography, many habitats are represented and plant and animal wildlife is diverse. A system of wildlife enclosures and waterfowl ponds, 30 kilometres of nature trails and a comprehensive information service are provided for approximately 120,000 visitors a year.

Black Mountain Reserve

The Black Mountain Reserve (521 hectares), adjacent to Lake Burley Griffin, is a significant focal point in the Canberra landscape and an essential component of the 'mountain and lake' concept of the Canberra scene. Black Mountain Reserve is unique in its setting within the inner boundary of a national capital. In addition to broad scale scenic attributes, the Reserve has a varied complex of flora and fauna and is used extensively for recreation and nature study. Black Mountain Reserve is part of a number of urban reserves which make up Canberra nature parks,

Jervis Bay Nature Reserve

The Jervis Bay Nature Reserve occupies two-thirds (4,169 hectares) of the Commonwealth Territory of Jervis Bay which lies on the south-east coast of Australia. The Reserve is characterised by a substantially natural landscape and outstanding coastal scenery, high cliffs, ocean and bay beaches, sand dunes, woodland, forest and heath. Bowen Island is now gazetted as part of the Reserve. Parts of the unspoilt marine environment of Jervis Bay and its foreshores are managed in sympathy with the Nature Reserve. Camping facilities are provided and are designed to complement the natural values of the area which attracts over 500,000 visitors annually.

The aims for all nature reserves in the Australian Capital Territory and Territory of Jervis Bay (which is managed by ACT Parks and Conservation on behalf of the Jervis Bay Territory Administration) are to:

- maintain natural ecosystems and landscapes and protect sites of prehistoric and historic significance;
- provide opportunities for recreational, scientific and educational use of these resources consistent with their protection.

Wildlife

Extensive surveys and investigations of the vertebrate fauna of the Australian Capital Territory are continuing, and active management of some species is necessary. For example, collaborative research by ACT Parks and Conservation service staff and scientists from CSIRO have developed techniques for the control of feral pigs in Namadgi National Park. Macquarie perch is a rare and endangered fish species which was once common in south-eastern Australia. Small populations occur in streams in the Territory, and these are being regularly monitored. Stocks of native fish species are maintained in Canberra's lakes, with regular stocking of silver perch, golden perch and murray cod.

Soil conservation

Rivers and lakes of the Australian Capital Territory are protected from serious siltation by a program of works in the Territory and adjoining areas of New South Wales, and by controls on methods of land development and use.

Lake Burley Griffin is protected under a collaborative works project between the Commonwealth, the State of New South Wales, and landholders in the lake's catchment. The scheme, commenced in 1966, is designed to remedy soil erosion problems and to promote sound land management practices. The ACT Administration and the CSIRO are studying the lake sediments to help determine the main sources of sediment, and so to decide works priorities in the catchment.

Land Tenure

Reference has been made in earlier issues of the *Year Book* to the general conditions of land tenure in the Australian Capital Territory and to the area of alienated and leased land.

With minor exceptions, the freehold estate of land in the Australian Capital Territory has been acquired by, and is vested in the Crown. The *Seat of Government (Administration) Act 1910* prevents the sale or disposal of such Crown land for any estate in freehold, except in the case of a contract that preceded the Act. Progressively the remaining areas of freehold land are being acquired.

Leases of land for residential, commercial and other purposes in the city area are usually granted under the *City Area Leases Ordinance 1936*. Some special leases for other purposes (such as diplomatic sites or churches) are granted under the *Leases (Special Purposes) Ordinance 1925* or the *Church Lands Leases Ordinance 1924* or the *Leases Ordinance 1918* if for a short term or experimental land use. Some areas outside the city area not immediately required for the development of the city or for other public purposes or where there is no intention of development, are leased for agriculture or grazing under the *Leases Ordinance 1918*.

Production

Forestry

Forestry field operations in the Australian Capital Territory began in 1915 with the planting of pines on the denuded slopes of Mount Stromlo to arrest soil erosion and to improve the visual quality of the landscape. In 1926, a program for development of commercial forests was approved following a comprehensive review of the Territory's potential for forest development. Major reviews of this program were made in 1932, 1954, 1967 and 1984; always, however, retaining the basic policy of systematic conservation and development. Forestry operations, including fire protection treatment, extend to some 13,000 hectares of natural forest in the Cotter catchment and adjacent areas and the Kowen region. The more productive stands in these areas were harvested extensively to provide timber for Canberra's post-war expansion and were subsequently treated to promote regeneration and protect the quality of water harvested.

Forest management in the Australian Capital Territory has been formulated to cater not only for commercial timber production but also to provide recreation facilities, an attractive visual environment for the national capital, to protect the water supply catchment and for appropriate wildlife conservation.

The forest authority is charged with the management of some 31,400 hectares of land in the Australian Capital Territory. As at 30 June 1988, the total area of coniferous plantations in the Australian Capital Territory and Jervis Bay was 16,194 hectares net. Of 220 hectares at Jervis Bay, the majority consisted of Radiata Pine and Slash Pine. The plantations in the Australian Capital Territory consisted mainly of Radiata Pine.

In 1987–88 there was no commercial production of hardwood timber from the Australian Capital Territory or Jervis Bay. The volume of softwood cut was 166,000 cubic metres. The total value of this unprocessed timber unloaded at the mill (mill door value) was $8.3 million.

Agriculture

The development of Canberra has brought about a decline in the area of land available for agricultural production in the Australian Capital Territory. At 31 December 1987 there were 141 rural leases carrying 116,851 sheep, 12,422 cattle, 1,948 horses and 1,086 goats.

ACT Agriculture manages land during its traditional phase from rural production to urban development and related uses.

Rural fencing totalling 55 kilometres was constructed for the control of stock and vermin by the rural workforce and by contract during the year ended 31 December 1987.

The ACT Veterinary service has a responsibility for prevention and control of disease in farm animals and provides a quarantine service for the import and export of animals.

Fresh fruit and vegetables are imported currently into the Australian Capital Territory at the rate of 156,000 tonnes per year. Agricultural personnel inspect annually a total of 120 retail produce outlets for quality control and to ensure produce is free from pests and disease. During the year to 31 December 1987, 13,000 gardens were inspected and advice given to landholders to minimise plant pests and disease.

Commercial Controls

Consumer affairs

The Consumer Affairs Bureau receives and investigates complaints from consumers concerning unfair commercial practices, including credit transactions. It conducts research into matters affecting consumer interests and provides information of benefit to consumers in fields such as tenancy and product safety.

The Trading Standards Office

The Trading Standards Office, which is part of the Consumer Affairs Bureau, maintains the standards of mass, length and volume for the Australian Capital Territory. It periodically examines all scales and measures used for trade and checks the weight or measures of packaged goods sold in retail premises. The Office also receives and investigates consumer complaints in relation to weights and measures problems.

Licensing

In the Australian Capital Territory, licensing schemes are established as a means of regulation, consumer protection, and of setting minimum standards of qualifications and experience for entry into certain occupations. Commercial activities such as credit provision, finance broking, bookmaking (racing industry), sale of motor vehicles, sale of real estate and stock station and business agencies are controlled by legislation requiring licensing or registration.

Gaming and liquor

The Gaming and Liquor Authority was established to provide totalisator betting services, to control outlets engaged in the supply of liquor and to control gaming machines in the Australian Capital Territory.

ACT Credit Tribunal

The ACT Credit Tribunal is an independent Tribunal established by the *Credit Ordinance 1985* to adjudicate between credit users and credit providers in matters arising under the Ordinance. It also decides as to the grant of licences to credit providers and finance brokers to engage in those businesses.

Cooperative societies

The *Co-operative Societies Ordinance 1939* provides for the incorporation of building societies, trading, housing and service societies and credit unions. The Registrar is responsible for the incorporation of new societies, registration of documents, inspections, and inquiries into the working and financial affairs of societies and the hearing and determination of certain disputes between a society and a member.

Workers' compensation

A workers' compensation scheme was established by the *Workmen's Compensation Ordinance 1951*. Under this scheme, the nominal insurer is liable to pay workers' compensation if an employer fails to cover a worker for workers' compensation and defaults in compensation payment.

Industrial relations and occupational health and safety

The Industrial Relations Unit has responsibility for industrial relations policy development and coordination in the ACT. Broad objectives for the Unit are the maximising of labour productivity through industrial stability and healthy and safe working environments. It functions within the requirements of employment and industrial legislation. Proposed occupational health and safety legislation will similarly impact the Unit's work.

Registrar's Office

The Registrar's Office controls both Land Titles and Births, Deaths and Marriages Offices. The Land Titles Office is responsible for registration of Land Titles dealings, Miscellaneous Deeds (e.g. Powers of Attorney) and Instruments (e.g. Bills of Sale) whilst the Births, Deaths and Marriages Office registers all Australian Capital Territory births, deaths and marriages.

Public Trustee

The Office of the Public Trustee is a corporation established by the *Public Trustee Ordinance 1985*. Its main responsibilities are connected to the role of trustee, administrator, executor, attorney, agent and manager of property in relation to wills or settlements, under the Ordinance.

Transport and Communications

The ACT Office of City Management is responsible for the regulation of transport and traffic under an ACT Ordinance. ACTION, the Australian Capital Territory Internal Omnibus Network, is a specific organisation within the Office of City Management. ACTION operated 431 buses in 1987–88 over 129 routes covering 1,533 kilometres. A total of 17,030,200 kilometres was travelled and 25,043,000 passenger journeys made.

There are eleven radio broadcasting stations currently in the Territory: 2CN, 2CY and ABC-FM of the national broadcasting system, four commercial stations, 2CA, 2CC, RRAC-FM and KIX-FM, and four public stations, 2XX, 1PPP, RPH-FM and 2SSS-FM. There are three television stations, ABC and Channel 0-28 of the national broadcasting system, and Australian Capital Television Pty Ltd (Capital 7), a Canberra-based commercial service.

Social

See also Chapter 10, Education and Chapter 11, Law and Order.

Schools

The *Education Ordinance 1937* provides for the compulsory attendance at school of children between the ages of six and fifteen years. Government schools are administered by the ACT Schools Authority, which became a statutory body under the *Schools Authority Ordinance 1976* in January 1977. The Authority and school boards are representative of teachers, parents and the community. The ACT Schools Accrediting Agency within the Authority system accredits courses and administers student assessment procedures for Years 11 and 12.

In July 1988 there were sixteen government high schools in the Australian Capital Territory and eight secondary colleges. High schools cater for Years 7 to 10 and secondary colleges for Years 11 and 12. In addition, there is a Year 9 to 12 school and a kindergarten to Year 10 school. Secondary students enrolled totalled 18,206.

Sixty-eight government schools provide courses at primary level, three of these being in rural districts and one at Jervis Bay. The number of students enrolled in government primary schools at July 1987 was 22,200.

Educational guidance services are provided by the Educational Guidance Centre and by school counsellors allocated to each school.

There are four government special schools in the Australian Capital Territory with a total enrolment of 373 students in July 1988. These schools cater for pre-school, primary and secondary school aged students who are physically or mentally handicapped. An annex for physically disabled students operates on a mainstream primary campus.

Mildly intellectually handicapped children are served by learning centres attached to ten primary schools and seven high schools. Special units for deaf children are available at three schools. Blind children also receive specialised support. Children below school age with learning, sight or hearing problems receive assistance from specially-trained staff at preschools, at the Therapy Centre and in their homes. Eleven primary schools cater for children of junior primary age who are unable to adjust to a normal class situation. Two schools cater for children with language and communication disorders.

Special English classes for children of non-English speaking background are available at fifty-nine primary schools, sixteen high schools and eight secondary colleges. Three Introductory English Centres (two for primary, one for secondary aged students) cater for migrant or refugee children with little or no English. They attend for up to six months and then return to their neighbourhood school.

The seventy-six pre-schools provide facilities for 3,942 children aged four years.

In July 1987 there were twenty-two non-government primary schools in Canberra, eight schools offering both primary and secondary schooling and five schools with secondary grades only. There were 10,428 pupils enrolled in primary grades at non-government schools and 10,076 in the secondary grades.

Higher education institutions

The Australian National University was established by an Act of Parliament and is administered by a governing council. The Institute of Advanced Studies within the University is a centre of research and training in research. It includes the John Curtin School of Medical Research, and Research Schools of Physical Sciences, Social Sciences, Pacific Studies, Chemistry, Biological Sciences and Earth Sciences. The Mount Stromlo and Siding Spring Observatories are part of the Institute of Advanced Studies. The Faculties carry out both undergraduate and postgraduate training and research, and are composed of the Faculties of Arts, Asian Studies, Economics and Commerce, Law and Science. The total student enrolment in 1988 was 6,645. The University has established a number of academic research centres.

The Canberra College of Advanced Education is administered by a governing council, constituted under an Act of Parliament and offers courses in six schools—Applied Science, Communication, Education, Environmental Design, Information Sciences and Engineering, and Management. Courses have a professional or vocational orientation and lead to Bachelor and Master degrees, and to Associate Diploma, Diploma and Graduate Diploma awards. There were 6,582 students enrolled in 1988. The College has set up several research centres.

Continuing education

The Centre for Continuing Education is part of the Australian National University and it aims to foster 'the learning society' by enriching the contacts between the University and the community to their mutual advantage. The Centre offers a wide range of courses in the natural and social sciences and the humanities.

Tourism

Tourism looms large in Canberra's future. It is a key element in the economy, sustaining employment for some 7,000 people and generating about $250 million revenue a year—or $1,000 for every man, woman and child of the resident population.

The official tourist servicing and marketing operation in the ACT is provided by the Canberra Tourism Development Bureau. The Bureau's main office is located in the Jolimont Centre in the city and it also operates a new Visitor Information Centre on the inbound lane of Northbourne Avenue. Both offices are open seven days. The Bureau is represented by branch offices in Sydney and Melbourne.

The major new attraction in Canberra is Parliament House. It is a superb drawcard for Canberra and, as early visitor figures indicate, will play a significant role in further boosting the value of tourism to the local economy. In the first three months after opening nearly half a million people inspected the buidling.

The National Science and Technology Centre and the new Parliament House round off Canberra's most important decade of tourism development, a decade which has brought forth not only the two other significant newcomers to the Parliamentary Triangle—the Australian National Gallery and the High Court—but also the National Film and Sound Archive, the Australian Institute of Sport, Cockington Green—the most successful private enterprise attraction—and overlooking it all, the Telecom Tower.

To keep pace with its multiplying attractions, Canberra's accommodation industry has also flourished. More than a thousand new hotel and motel rooms will have been built between 1985 and 1989—a 40 per cent increase, in a wide range from family budget to grande luxe. The Hyatt Hotel belongs in the latter category; a unique redevelopment of the famous old hotel that became the alternative meeting place to Parliament House in the early days of the 'bush capital'.

In 1989, the 300 room Capital Parkroyal will be completed along with its stunning neighbour, the Canberra National Convention Centre. The CNCC will have a seating capacity of 2500 in the Royal Theatre, 3000 in the Exhibition Hall and 800 in the Grand Ballroom. Its arrival will undoubtedly herald a new era for conferences and conventions in the national capital.

Two initiatives currently on the tourism drawing boards—the Casino/Theatre proposal and the Very Fast Train service—both promise to further enhance Canberra as a national and international tourist destination.

Sport and Recreation

Management aims are to contribute to the physical and mental well being of individuals within the ACT through promoting and providing opportunities for participation in sport and recreation activities.

A range of sport and recreation facilities and programs are provided in the ACT, including sportsgrounds, Erindale Leisure Centre, Birragai, 'Life. Be in it', Lake Burley Griffin and the Carillon.

The views of sporting and community bodies are represented by the ACT Sport and Fitness Committee which provides advice on sport and fitness policies and on the allocation of Sports Development Grants from the Community Development Fund.

Finance

In the following table, identifiable revenue and outlay relating to the Australian Capital Territory have been classified in a National Accounts form. The table covers transactions of the Commonwealth Government in respect of the Australian Capital Territory in the Consolidated Revenue Fund and the following trust funds: Australian Capital Territory Forestry, Australian Capital Territory Housing, Australian Capital Territory Transport and Australian Capital Territory Suspense. In addition, details of the financial transactions of the following public corporations are also covered: Australian Capital Territory Electricity Authority, Commonwealth Brickworks (to September 1979), Canberra Retail Market Trust, National Capital Development Commission, the Canberra Theatre Trust, the Canberra College of Advanced Education, A.C.T. Gaming and Liquor Authority, Canberra Commercial Development Authority and the Australian Capital Territory Health Commission including the Canberra and Woden Valley Hospitals. Not included are: revenue derived by the Commonwealth Government from income taxes, sales tax, etc., levied in the Australian Capital Territory; outlay on items of a national character such as defence, civil aviation, railways, etc.; and payments to residents from the National Welfare Fund.

AUSTRALIAN CAPITAL TERRITORY: OUTLAY AND REVENUE
($ million)

	1984–85	*1985–86*	*1986–87p*
Current outlays *(a)*	527.9	568.1	630.4
General government final consumption expenditure *(a)*	453.2	483.0	532.3
Interest payments	2.9	3.6	4.1
Subsidies paid:	14.7	16.2	18.9
To public trading enterprises	14.7	16.2	18.9
To other enterprises	—	—	—
Personal benefit payments	11.0	12.5	15.5
Current grants	46.2	52.7	59.5
Grants to non-profit institutions	46.2	52.7	59.5
Capital outlays	96.5	10.9	176.8
Gross fixed capital expenditure	194.0	136.4	277.2
Expenditure on new fixed assets	194.0	223.6	277.2
Expenditure on secondhand fixed assets (net)	—	*(b)*–87.1	—
Increase in stocks	1.1	1.4	0.9
Expenditure on land and intangible assets (net)	–95.1	–110.8	–90.5
Capital grants to private sector and public financial enterprises	2.8	2.6	2.5
Net advances paid to the private sector	–6.3	–18.8	–13.3
Revenue and grants received	171.4	198.8	244.4
Taxes, fees and fines	125.1	145.8	186.0
Net operating surpluses of public trading enterprises	10.8	16.0	15.8
Interest received	31.1	30.7	33.9
Other revenue	4.3	6.2	8.8
Financing transactions	453.0	380.2	562.8
Net borrowing:	–2.7	5.5	4.7
General government	–0.1	–0.1	–0.1
Public trading enterprises	–2.6	5.6	4.7
Deposits received (net)	–0.4	–2.0	13.5
Increase in cash balance of private trust funds	–0.4	–2.0	13.5
Other	—	—	—
Decrease in investments	–0.4	–1.6	–1.7
Decrease in currency and deposits	7.1	–5.8	–3.3
Increase in provisions	4.4	3.0	7.4
Increase in provisions for depreciation	4.4	3.1	6.5
Other	–0.1	—	1.0
Net charge to Commonwealth budget *(c)*	445.1	381.0	542.2

(a) Excludes estimate of expenditure on Police services in the Australian Capital Territory. Information on the actual expenditure on these services is so available. *(b)* Negative expenditure due to sale of Belconnen Mall in this year. *(c)* This item is a partial measure of the net difference between revenues raised and expenditures made in the Australian Capital Territory because expenditures have been overstated by inclusion of outlays on Commonwealth offices and national works, and revenues understated by exclusion of income taxes, sales tax, etc. and excise duties levied in the Australian Capital Territory. This information it not separately available.

THE JERVIS BAY TERRITORY

The Jervis Bay Territory was acquired by the Commonwealth from New South Wales in 1915 under the Jervis Bay Territory Acceptance Act, to make provision for the Seat of Government in Canberra to have access to the sea. The Jervis Bay Territory is a Territory in its own right, to which ACT laws apply insofar as they are applicable.

The Territory has an area of about 7,360 hectares including about 800 hectares of territorial waters in Jervis Bay. In 1971, 4,118 hectares were declared as the Jervis Bay Nature Reserve and in December 1985 the whole of Bowen Island (51 hectares) was declared a reserved area under the *Nature Conservation Ordinance 1980*. On 14 March 1987 the Government granted to the Wreck Bay Aboriginal community inalienable freehold title over 403 hectares.

Other land uses in the Territory include the Jervis Bay Village, the Royal Australian Naval College at HMAS *Creswell* and the RAN airfield. A number of blocks fronting Sussex Inlet have been leased for residential or holiday purposes; these include historic Christian's Minde, the site of the first European Settlement in the area, dating from 1880.

NORFOLK ISLAND

General Description

Norfolk Island, discovered by Captain Cook in 1774, is situated approximately in latitude 29°02′S, longitude 167°57′E. Its total area is approximately 3,455 hectares, the island being about 8 kilometres long and 5 kilometres wide. It is 1,676 kilometres from Sydney, 1,063 kilometres from Auckland and 772 kilometres from Noumea. The coastline, which is 32 kilometres long, consists of almost inaccessible cliffs rising from the waters edge, except at Kingston in the south and the landing place at Cascade on the northern side. The climate is equable, the average daily maximum temperature varying between 16°C and 28°C, and the average annual rainfall is 1,350 millimetres. The resident population is about 2,000.

The island served as a penal station from 1788 to 1814 and from 1825 to 1855. In 1856, 194 descendants of the *Bounty* mutineers were transferred from Pitcairn Island.

Administration

In 1856, the island was created a distinct and separate settlement under the jurisdiction of the Governor of New South Wales. In 1897 it was made a dependency under the Governor of that colony, and finally, by the passage of the *Norfolk Island Act 1913*, became a Territory of Australia.

In May 1978, the Government announced that it should try to develop for Norfolk Island a form of government involving the island's own elected representatives under which the necessary revenue could be raised by its own system of law. The *Norfolk Island Act 1979*, which was assented to on 30 May, established the framework for this objective. In broad terms, the Act equips Norfolk Island with responsible legislative and executive government to enable it to run its own affairs to the greatest practicable extent. Wide powers are exercised by the Norfolk Island Legislative Assembly and by an Executive Council, comprising the executive members of the Legislative Assembly who have ministerial-type responsibilities. The Act preserves the Commonwealth's responsibility for Norfolk Island as a Territory under its authority, with the Minister for the Arts, Sport, the Environment, Tourism and Territories as the responsible Minister; and indicates the Parliament's intention that consideration will be given to an extension of the powers of the Legislative Assembly and the political and administrative institutions of Norfolk Island within five years. In 1985 legislative and executive responsibility for a range of matters was formally transferred to the Norfolk Island Government. Consideration is being given to the transfer of further powers as part of an on-going process of devolution of responsibility to the local community.

The Office of the Administrator is financed from Commonwealth expenditure which amounted to $395,000 in 1987–88. A further $408,000 was provided by the Commonwealth during the year for the restoration and maintenance of historic structures.

Economic Activity

The island's major economic activity is tourism. Primary production is not fully adequate for local needs and foodstuffs are imported from New Zealand and Australia.

Primary industries

The soil on the island is particularly fertile, the climate equable and the rainfall fairly evenly distributed except for a pronounced dry period in November. This enables a wide range of temperate and semi-tropical products to be cultivated. However, the island's comparative isolation presents trading difficulties, and there is only very limited production of export crops.

Fish are in abundance and in the past a number of ventures have been formed to exploit this resource, but they have been short-lived, mainly because of the lack of a sheltered harbour. A modern whaling station was started on the island in 1955, and production commenced during the second half of 1956. Owing to a marked scarcity of whales after 1961 the station was closed down.

A forestry program is being carried out to increase the resources of Norfolk Island Pine and to introduce suitable types of eucalypts.

Tourists

Regular air services to the island are available for those who seek a quiet holiday in surroundings of beauty and historic interest. At present, accommodation consists of flats and hotels as well as licensed and unlicensed guest houses. There were 28,192 tourist arrivals in 1987–88.

Employment

A large proportion of the population derives its income from various aspects of the tourist industry including the operation of hotels and low duty stores. A number of clerical and other positions are available to islanders in the Norfolk Island Administration. Very few people rely entirely on agricultural pursuits for their income.

Finance

Until 1979, Norfolk Island revenue was supplemented by annual grants from the Commonwealth Government. Under present constitutional arrangements, the cost of maintaining the island, other than the Administrator and his staff, is met as far as practicable from island sources.

NORFOLK ISLAND: REVENUE AND EXPENDITURE
($'000)

	1981–82	*1982–83*	*1983–84*	*1984–85*	*1985–86*	*1986–87*
REVENUE						
Customs duty	785	710	1,104	1,373	1,833	2,008
Liquor profit	287	288	423	439	578	614
Company fees	103	111	96	94	84	92
Postal operations *(a)*	1,351	755	1,016	801	744	114
Vehicle registration and licence fees	57	92	113	117	124	128
All other	830	718	1,094	1,624	1,777	2,173
Total revenue	**3,413**	**2,674**	**3,846**	**4,448**	**5,140**	**5,129**
EXPENDITURE						
Administration	1,334	1,214	1,451	1,669	1,770	1,245
Education services	722	453	627	627	927	755
Health and welfare services	452	485	469	514	552	627
Repairs and maintenance	470	436	467	571	706	830
Capital works and services	317	210	99	265	768	1,682
Miscellaneous services	277	278	312	312	431	501
Legislative Assembly	110	183	192	230	234	210
Total expenditure	**3,682**	**3,261**	**3,617**	**4,188**	**5,388**	**5,850**

(a) In July 1986 the Postal Operation became a separate undertaking from the Administration. The 1986–87 figure for Postal Operations represents the net profit of that undertaking and not, as previously, the total revenue from the sale of stamps. The decrease in expenditure on Administration also reflects this change.

Trade, Transport and Communication

Imports to Norfolk Island since World War II have risen in value from $65,000 in 1945–46 to over $26 million in 1986–87. The major proportion came from Australia and New Zealand. Exports in 1986–87 amounted to $2.9 million, with Australia and New Zealand as the principal markets.

A shipping company operates cargo services to Norfolk Island at approximately 6 weekly intervals, linking the island with Australia, New Zealand and other islands in the South Pacific area.

A passenger and air freight service between Sydney and Norfolk Island is operated by East–West Airlines Ltd. Air New Zealand Limited provides a service 2–3 times a week to the island from Auckland. Flights between Norfolk Island and Brisbane are also operated by East–West Airlines 2–3 times a week and by Norfolk Island Airlines 2–4 times a week.

There are approximately 80 kilometres of motor roads on the island. A substantial section of the population possesses motor cars. Hire cars, taxis and scooters are available.

The island has an automatic telephone exchange and international telephone connection with Australia, New Zealand and Fiji by way of the ANZCAN submarine cable system. A local broadcasting service is operated by the Administration. The Administration also provides a television service. A central ground station receives ABS and SBS services via the AUSSAT satellite which are then re-broadcast throughout the island.

Education

Education is free and compulsory between the ages of 6 and 15 years. The school, which is conducted for the Administration by the New South Wales Department of Education conforms to the Australian standard of public education, ranging from Kindergarten to the School Certificate (Year 10) level. The number of students enrolled at 30 June 1987 was 315.

Some bursaries, subject to a means test, are available for pupils who wish to attend a mainland school either to continue their studies beyond the School Certificate level or to undertake high school courses not available on the island. A limited number of trainee scholarships are available for pupils who have left school and wish to undertake apprenticeships or similar training away from the island.

Judiciary

The judicial system of Norfolk Island consists of a Supreme Court and a Court of Petty Sessions. The Supreme Court is the highest judicial authority in the Territory and is a superior court of record with original criminal and civil jurisdiction. The jurisdiction of the court is exercised by one judge sitting in court or, to the extent provided by or under ordinance, sitting in chambers. The jurisdiction of the Court of Petty Sessions is exercised by the Chief Magistrate or any three Magistrates.

HEARD ISLAND AND McDONALD ISLANDS

Heard Island, about 43 kilometres long and 20 kilometres wide, is the largest of a group of southern Indian Ocean islands about 4,100 kilometres south-west of Fremantle. The islands were transferred from the United Kingdom to Australia as from 26 December 1947. The laws of the Australian Capital Territory were declared to be in force in the Territory of Heard Island and McDonald Islands by the *Heard Island and McDonald Islands Act 1953*.

In December 1947, the first of the Australian National Antarctic Research Expeditions (ANARE) set up a scientific station on Heard Island. Various scientific and meteorological investigations were conducted until the station was closed in March 1955 following the establishment of Mawson station on the Antarctic mainland. Australian expeditions have since visited the island from time to time. From 1985 until March 1988 a major new research program was undertaken on the island, mainly involving investigation of the Island's wildlife as part of international studies of the Southern Ocean ecosystem.

The McDonald Islands are 43 kilometres to the west of Heard Island. They are small, rocky and precipitious. The first known landing on McDonald Island, the largest of the group of that name, was by ANARE expeditioners on 27 January 1971.

Heard Island is widely regarded as one of the last Antarctic habitats remaining free of introduced organisms, and is thus of significance as a benchmark for ecological studies. In December 1987, introduction of the Environment Protection Ordinance under the *Heard Island and McDonald Islands Act 1953* put in place the framework for sustained conservation of the islands.

AUSTRALIAN ANTARCTIC TERRITORY

An Imperial Order in Council of 7 February 1933 placed under Australian Authority all the islands and territories, other than the French Terre Adelie, south of 60°S latitude and between 45°E and 160°E longitude, a total land area of six million square kilometres, or the size of Australia less Queensland. The Order came into force with a proclamation issued by the Governor-General on 24 August 1936, after the passage of the *Australian Antarctic Territory Acceptance Act 1933*. The boundaries of Terre Adelie were definitively fixed by a French decree of 1 April 1938 as the islands and territories south of 60°S latitude and between 136°E and 142°E longitude. The *Australian Capital Territory Act 1954* declared the laws of the Australian Capital Territory, so far as they are applicable and not inconsistent with any ordinance made under the Act, to be in force in Australian Antarctic Territory.

On 13 February 1954 ANARE established the first permanent Australian Antarctic station, in Mac Robertson Land at latitude 67°36′S and longitude 62°53′E. The station was named Mawson in honour of the Australian Antarctic pioneer Sir Douglas Mawson. A second Australian continental station was established in 1957 at latitude 68°35′S and longitude 77°58′E, and was named Davis to commemorate Captain John King Davis, second-in-command of two of Mawson's expeditions and master of several famous Antarctic ships. On 4 February 1959 Australia accepted from the United States Government custody of Wilkes station, which had been established two years earlier at latitude 66°15′S and longitude 110°32′E. Wilkes was subject to inundation by snow and ice, and was closed on 19 February 1969 when activities were transferred to Casey, a new station built nearby. Casey was named in honour of Lord Casey, former Governor-General of Australia, in recognition of his long association with Australia's Antarctic effort.

Australian science in Antarctica deals mainly with the Antarctic ecosystem, the region's natural phenomena, and atmospheric and space studies. Disciplines include marine science, land based biology, cosmic ray physics, upper atmosphere physics, glaciology and earth sciences.

In addition to its three permanent continental stations (a fourth permanent station is on the Tasmanian territory of Macquarie Island), Australia conducts its Antarctic science from summer bases at Cape Denison (in the eastern sector of Australian territory), Scullin Monolith, the Larsemann Hills and the Bunger Hills, as well as temporary field camps in such places as Enderby Land, Prince Charles Mountains, Amery Ice Shelf and Law Dome.

In 1981–82 a ten-year program for redeveloping Australia's Antarctic stations began. It is now well advanced, and the first of the new stations to be completed—Casey—will be occupied in 1989.

COCOS (KEELING) ISLANDS

General Description

The Territory of the Cocos (Keeling) Islands comprises a group of 27 small coral islands in two separate atolls in the Indian Ocean, 2,768 kilometres north-west of Perth.

The Territory's administrative community, airport and animal quarantine station are located on West Island, the largest island, about 10 kilometres long. The Cocos Malay community lives on Home Island. The main atoll is low-lying, flat, and thickly covered by coconut palms, and surrounds a lagoon which has an anchorage in the northern part but which is extremely difficult for navigation.

The climate is equable and pleasant, usually being under the influence of the south-east trade winds for about nine months of the year. However, the winds vary at times, and meteorological reports from the Territory are particularly valuable for those engaged in forecasting for the eastern Indian Ocean. The temperature varies between 21°C and 32°C, and the average yearly rainfall is 1,998 millimetres. There are occasional violent storms.

History and Administration

The islands were discovered in 1609 by Captain William Keeling of the East India Company, but were uninhabited until Alexander Hare and John Clunies–Ross established small settlements at different points on the main atoll in 1826 and 1827 respectively. Clunies–Ross secured sole possession in 1831, and the islands were declared part of the British Dominions in 1857. In 1878 responsibility for the supervision of the islands was transferred to the Government of Ceylon and eight years later, to the Government of the Straits Settlements.

In 1903 the islands were incorporated in the Settlement of Singapore but were attached again to Ceylon during World War II while Singapore was under Japanese occupation.

By mutual agreement between the British and Australian Governments, and confirmed by complementary legislation, the islands became an Australian territory in 1955. The Australian Government purchased the Clunies–Ross interests in the Territory in 1978, except for the family home and grounds.

The *Cocos (Keeling) Islands Act 1955* is the basis of the Territory's administrative, legislative and judicial systems.

An Administrator, appointed by the Governor-General and responsible to the Minister for the Arts, Sport, the Environment, Tourism and Territories, is the senior Government representative in the Territory.

On 25 July 1979 the Cocos (Keeling) Islands Council, elected by members of the Home Island community, was established. The Council has responsibility for a range of functions in the Home Island village area, advises the Administrator on local affairs, and is also empowered to make representations on ordinances proposed for the Territory.

The Cocos Islands Co-operative Society Limited, also established in 1979, conducts the business enterprises of the Cocos people. The Cooperative undertakes building maintenance and construction, stevedoring and lighterage services, retailing and provision of accommodation and catering services.

The Territory's own postal service, including a philatelic bureau, was opened in 1979. The service, run by the Administration, provides local employment and its profits are directed to the Cocos (Keeling) Islands Council for use on community projects.

On 6 April 1984 the Cocos Malay community, in an Act of Self Determination which took the form of a referendum observed by the United Nations, chose to integrate with Australia.

The population of the Cocos (Keeling) Islands at 30 June 1988 was 686, distributed between Home Island (465) and West Island (221).

Transport and Communication

There is an airport of international standard at West Island, controlled by the Administrator under licence from the Department of Transport and Communications. The Department of the Arts, Sport, the Environment, Tourism and Territories operates a weekly air charter service which alternates between the routes Perth–Christmas Island–Cocos (Keeling) Islands–Perth and Perth–Cocos (Keeling) Islands–Christmas Island–Perth. A shipping service operates to the Territory every 6–8 weeks. The Administration operates and maintains, on behalf of the Overseas Telecommunications Commission (Australia), a satellite communications facility which provides telephone, facsimile and telex services to the Australian mainland and beyond. There are local postal and telephone services, and a non-commercial broadcasting station.

CHRISTMAS ISLAND

General Description

Christmas Island is an isolated peak situated in the Indian Ocean, latitude 10°25′S, longitude 105°40′E. It is approximately 360 kilometres south from Java Head at the southern entrance to Sunda Strait, 1,312 kilometres from Singapore and 2,623 kilometres from Perth. Christmas Island covers an area of about 135 square kilometres. It consists of a central plateau varying in height from 250 metres above sea level at the eastern side of the island to 150 metres on the western side. Several prominent rises in the plateau reach 360 metres above sea level. The plateau descends to the sea in a series of steep slopes alternating with terraces. Sea cliffs over 20 metres high run along a considerable portion of the coastline except in a few places, the chief of which is Flying Fish Cove where the principal settlement is located and which is the only anchorage.

The climate is tropical, with prevailing winds coming from the south-east to east-southeast from May to December, and occasionally shifting round to between north and west from December to April (the wet season). The average yearly rainfall is 2,673 mm with a marked summer incidence. The porous nature of the ground prevents the formation of pools of water, but there are several good springs which provide an adequate supply of fresh water for the population and for the mining operation. The mean average temperature is about 27°C, and does not vary greatly throughout the year.

Economy

The economy of the Territory is based almost entirely on the mining and extraction of phosphate. In November 1985 responsibility for the mining operation was transferred from the Phosphate Mining Company of Christmas Island (a limited liability company wholly owned by the Australian Government) to the Phosphate Mining Corporation of Christmas Island, PMCI, (a statutory authority).

When it became apparent that PMCI could not operate within an agreed Government underwrite, the Government decided to close down the mining operation. A Liquidator was appointed on 11 November 1987 to wind up PMCI. The mining operation ceased on 31 December 1987, although it was announced in February 1988 that the Government would consider proposals by private operators to recommence phosphate mining on the Island provided that certain guidelines were met, including that there be no further rainforest clearing.

On 1 July 1988 it was announced that negotiations would commence with Elders Resources Limited for the recommencement of mining operations on the Island.

The Government has actively encouraged private sector investment in new activities on the island to secure an economic future which is not solely dependent on mining. Several worthwhile development proposals which have been received are progressing, including a major tourist hotel/casino project, a three star hotel development, and a fishing venture.

The Government has recognised that the unique environment of the Island holds the key to its future development, in particular tourism. Several rare and endangered species of wildlife live on Christmas Island, the best known being the Abbotts Booby, an endemic sea bird which nests in emergent trees in the rainforest canopy.

Population

Some 1,000 people were residents of the island in June 1988. The majority are Chinese, with the remainder being mostly Malays and Europeans. There is no indigenous population. Under the provisions of the *Christmas Island Act 1958* and the *Australian Citizenship Act 1948* almost all residents are Australian citizens or have permanent Australian resident status.

Education

The Christmas Island Area School is run by the Administration and is staffed by teachers provided by the Commonwealth Teaching Service, which staffs government schools in the Australian Capital Territory. The school provides education from pre-school level through to Year 10 secondary level. It follows a locally developed curriculum aligned with that used in Western Australia. There are 239 students enrolled at the school. A further 23 senior secondary students (Years 11 and 12) in Western Australian schools receive assistance from the Administration.

Resettlement and Training

The Government introduced a generous redundancy and resettlement scheme to assist workers made redundant as a result of the closure of the mine to relocate to areas with greater long term job potential. The Government additionally extended into 1988 its major skills upgrading package to provide the opportunity for redundant mine workers to acquire relevant skills on the mainland in known areas of ongoing employment. The establishment of the Christmas Island Community Centre in Perth within this program provided a major focus for the delivery of these services.

History and Administration

Summarised particulars of the history of Christmas Island up to its administration by the United Kingdom as a separate Crown Colony (from 1 January 1958, pending transfer to Australia) are given in *Year Book* No. 51, and in earlier issues. On 1 October 1958, the island was accepted by Australia under the *Christmas Island Act 1958*. The Territory is administered by an Administrator appointed by the Governor-General. Responsibility for the administration and government of the Territory rests with the Minister for the Arts, Sport, the Environment, Tourism and Territories. The Administrator reports to the Minister and is subject to his direction. The laws which were in force on the island at 30 September 1958 were continued as the laws of the Territory after its transfer to Australia.

The *Migration Act 1958* was extended to the Territory from 23 January 1981, enabling all island residents to become Australian residents and to acquire Australian citizenship. A number of measures have since been taken to extend the same benefits and responsibilities to island residents as apply on the Australian mainland so that the islanders will be in no better or worse a position than their mainland counterparts.

The *Christmas Island Administration (Miscellaneous Amendments) Act 1984* received Royal assent on 18 October 1984. The Act provides for the extension of the *Commonwealth Electoral Act 1918, Social Security Act 1947, National Health Act 1953, Student Assistance Act 1973* and related Acts relevant to Christmas Island. Following passage of the legislation, normal social security and health benefits applied with effect from 1 October 1984 and 18 October 1984 respectively and Australian citizens in the Territory were entitled to vote in federal elections and referendums from 18 October 1984. The *Lands Ordinance 1987* provides for the leasing of land for commercial and residential purposes.

The *Services Corporation Ordinance 1984* was made on 26 October 1984, creating the Christmas Island Services Corporation (CISC) with power to provide many local and community services on the island.

The *Taxation Laws Amendment Act 1985* received Royal assent on 30 May 1985. The Act provided for the introduction of full company tax and the Medicare levy, as well as the phased introduction of personal income tax on Christmas Island over a four year period from 1 July 1985.

The *Christmas Island Assembly Ordinance 1985* and the Christmas Island Assembly (Election) Regulations permitted Christmas Island residents to elect their first Assembly on 28 September 1985, The inaugural meeting was held on 6 October 1985. Nine members were elected for a one-year term under a voting system similar to that used in electing Senators of the Commonwealth of Australia. The Christmas Island Assembly has responsibility for directing the Christmas Island Services Corporation in the performance of its functions.

Transport and Communications

Shipping and freight services to and from the Island were provided by Wesfarmers, a Western Australian freight company. This was an interim measure until January 1989, when a combined shipping service to the Cocos (Keeling) Islands and Christmas Island commenced operation.

An air charter arranged by the Department of the Arts, Sport, the Environment, Tourism and Territories, provides a weekly service to the island following alternate routes Perth–Christmas Island–Cocos (Keeling) Islands–Perth one week and Perth–Cocos (Keeling) Islands–Christmas Island–Perth the next. The Department also currently operates a fortnightly air charter between Singapore and the island.

The Territory has its own radio broadcasting station, police force, hospital, postal service and philatelic bureau. The VISTA communications system which provides an external telex and telephone service by intelsat satellite, and a back-up INMARSAT system, became fully operational on 17 October 1985.

CORAL SEA ISLANDS TERRITORY

The Coral Sea Islands are situated east of Queensland between the Great Barrier Reef and longitude 156°06′E and between latitudes 12° and 24°S. The Territory comprises a sea area of approximately 780,000 square kilometres. The islands are largely formed of sand and coral. Some have grass or scrub cover, but most are extremely small, with no permanent fresh water. A meteorological station, staffed by three people, has operated on Willis Island since 1921. The remaining islands are uninhabited.

In the 19th century many ships were wrecked in the area, and the reefs and islands are often named for the ships which foundered there. There are beacons on the Frederick and Saumarez Reefs and on East Diamond Islet, and a lighthouse on Bougainville Reef. There are occasional tropical cyclones in the area. Meteorological data are relayed to the mainland from automatic weather stations located on Cato Island, Flinders Reef, Frederick Reef, Holmes Reef, Lihou Reef and Marion Reef.

Six species of sea turtle nest in the Coral Sea Islands Territory, including the largest species in the world, Dermochelys coriacea, which is regarded as one of the most endangered of the world's sea turtles. There are at least 24 bird species in the Territory; a number of these species are protected under Australia–Japan and Australia–China agreements on endangered and migratory birds. In 1982 the Lihou Reef and Coringa–Herald National Nature Reserves were declared to protect the wildlife in the Territory.

There have been a number of scientific expeditions to the region since 1859, and many specimens of flora and fauna are now housed in Australian herbariums and museums.

In 1969, the Coral Sea Islands became a Territory of the Commonwealth under the Coral Sea Islands Act. The Department of the Arts, Sport, the Environment, Tourism and Territories in Canberra, is responsible for the administration of the Territory.

Aerial surveillance of the Territory is undertaken by the Royal Australian Air Force and by chartered civil aircraft. Regular visits are made to the islands by ships of the Royal Australian Navy.

The Jabiru and Challis oil fields are located within the adjacent area of the Territory. The Jabiru field commenced production in 1986, and the Challis field is being developed.

THE TERRITORY OF ASHMORE AND CARTIER ISLANDS

Ashmore Islands (known as Middle, East and West Islands) and Cartier Island are situated in the Indian Ocean some 850 km and 790 km west of Darwin respectively. The islands lie at the outer edge of the continental shelf. They are small and low and are composed of coral and sand. Vegetation consists mainly of grass. The islands have no permanent inhabitants.

Great Britain took formal possession of the Ashmores in 1878 and Cartier Island was annexed in 1909. By Imperial Order in Council of 23 July 1931, the islands were placed under the authority of the Commonwealth of Australia. The islands were accepted by Australia through the *Ashmore and Cartier Islands Acceptance Act 1933* under the name of the Territory of Ashmore and Cartier Islands. By amendments to the Act in 1938, the Territory was annexed to, and deemed to form part of, the Northern Territory. With the granting of self-government to the Northern Territory on 1 July 1978, the administration of the Territory became a direct responsibility of the Commonwealth Government.

Responsibility for the administration of the Territory rests with the Minister for the Arts, Sports, the Environment, Tourism and Territories. Relevant laws of the Northern Territory as at 1 July 1978 presently apply in the Territory. A 1985 amendment to the Ashmore and Cartier Islands Acceptance Act will, when it comes into force, extend to the Territory laws of the Northern Territory as in force from time to time, so providing the Territory with an up-to-date body of law.

Birdlife is plentiful on the islands of Ashmore Reef. Turtles are plentiful at certain times of the year and *bêche-de-mer* is abundant. In recognition of the environmental significance of the area, the Reef was in 1983 given the status of a national nature reserve under the *National Parks and Wildlife Conservation Act 1975*. Regular visits are made to the Reef by officers of the Australian National Parks and Wildlife Service.

An agreement between Australia and Indonesia allows Indonesian traditional fishermen to continue to fish in Waters of the Territory. Since 1985, an Australian presence has been maintained at Ashmore Reef during the March to November fishing season to monitor the activities of visiting Indonesian fishermen.

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